Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.

Plant Industry Sub-branch
UNITED STATES
DEPARTMENT OF AGRICULTURE
LIBRARY

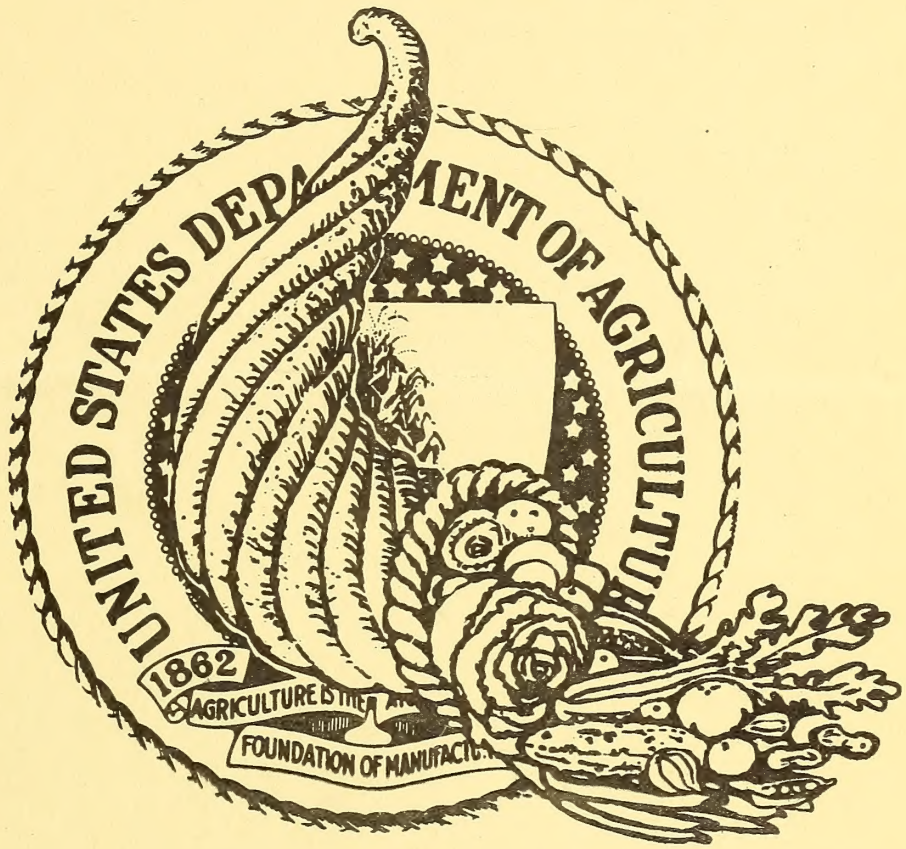
1.9
BOOK NUMBER P772
v.1
Mar.-Dec.1929
483151
GPO 8—7671

1.9
P772

The OFFICE OF HORTICULTURAL CROPS AND DISEASES

SEMI-MONTHLY

NEWS-LETTER



BUREAU OF PLANT INDUSTRY

UNITED STATES DEPARTMENT OF AGRICULTURE

183151

INTRODUCTION

With the formation of the office of Horticultural Crops and Diseases by the consolidation of the old offices of Horticulture, Vegetable Diseases, Crop Physiology and Breeding, Fruit Diseases, Laboratory of Plant Pathology, and Plant Physiology, the various news letters of those offices were discontinued, and the V & F PATHOLOGIST, FRUIT DISEASE NEWS NOTES, and THE EYE, were merged with the new OFFICE OF HORTICULTURAL CROPS AND DISEASES SEMI-MONTHLY NEWS LETTER.

W. A. Whitney occupied the position of Editor from March 1 to June 1, 1929. A few issues were then prepared under the direction of the General Service unit of the office. On August 1, 1929, John A. Ferrall was appointed editor.

The roughly prepared index at the end of this volume will, it is hoped, be helpful in locating specific items; but it will also be useful in indicating the amazing variety of topics handled by the NEWS LETTER. The names of individuals are included in the index only when connected with important or unusual activities.

---John A. Ferrall

Washington, D. C.
January 1, 1930.

Vol. I -
March to December, 1929.

Washington, D. C.
January 1, 1930.

---John A. Ferrell

Vol. I -
March to December, 1929.

THE OFFICE OF HORTICULTURAL CROPS AND DISEASES

S E M I - M O N T H L Y N E W S - L E T T E R

The Official Organ of the Office of Horticultural Crops and Diseases, Bureau of Plant Industry, United States Department of Agriculture.

W. A. Whitney, Editor

All material contained herein is confidential and is not for publication without the approval of the Office of Horticultural Crops and Diseases.

Volume One Washington, D. C., March 1, 1929 Number One

EDITORIAL ANNOUNCEMENT

Beginning today "The V & F Pathologist", "Fruit Disease News Notes", and "The Eye" -- all publications issued by units now amalgamated into the Office of Horticultural Crops and Diseases -- cease to exist as such and in their stead this journal, THE OFFICE OF HORTICULTURAL CROPS AND DISEASES SEMI-MONTHLY NEWS-LETTER, is started. It will be the policy of the NEWS-LETTER to carry on the purposes for which these other publications were founded and it is hoped that it will be of value to the personnel of the Office. Your suggestions wherein the NEWS-LETTER may be bettered are cordially solicited as well as material which might well be included in these pages.

-- W. A. WHITNEY, Editor.

OFFICE WORKERS ON PROGRAM OF CANNERS' MEETING

The Office of Horticultural Crops and Diseases was well represented at the annual Canners' and Field Men's School held February 19, 20, and 21 by the University of Maryland. Dr. E. C. Auchter, Principal Horticulturist, gave the opening address on "Our Problems and Interests are Mutual". Dr. V. R. Boswell, Senior Horticulturist, spoke on "Influence of Temperature on Yield and Quality of Canning Peas". Dr. L. L. Harter, Senior Pathologist, and Dr. W. J. Zaumeyer, Assistant Pathologist, discussed "Bean Diseases". Other members of the office were in attendance.

MANUSCRIPTS APPROVED FOR PUBLICATION

The following manuscripts have received approval for publication:

1. "Chemical Injury to Watermelons in Transit." By W. W. Gilbert, Senior Pathologist, and F. C. Meier, Senior Pathologist, Extension Service. For publication in the Journal of Agricultural Research.

2. "New Hope for Asters." By Freeman Weiss, Pathologist. For publication in The Florists Review.

3. "Aster Lifesavers." By Freeman Weiss, Pathologist. For publication in The American Home.

4. "Inflorescence Types of Strawberry Varieties." By George M. Darrow. For publication in The American Journal of Botany.

The Agriculture Interbureau Duck Pin League is staging one of the most exciting races of its career, but four games separating the first and sixth place teams. Horticultural Crops employees are interested as Jack Ferrall captains the Plant Bureau team, now leading the race by a margin of total pins, while Emmett C. Scott of Crop Physiology bowls with the second place Interbureau quint.

USE OF TRANSPORTATION REQUESTS

In view of the fact that Paragraph 20 of Travel Regulations requires the use of transportation requests when practicable for all official transportation costing $1.00 or more furnished by recognized transportation companies, any failure to use transportation requests for such transportation should be explained when claiming reimbursement for the charge.

TELEGRAPH SERVICE

"Telegrams at Government rates reserving hotel accommodations shall be paid for in cash and the charges therefor included in subsistence expenses for initial date of the period for which the accommodations are occupied."

FRUIT DISEASES

Citrus Fruits in Marine Transit Inspected

Messrs. H. R. Fulton, Senior Pathologist, and J. J. Bowman, Assistant Pathologist, spent several days in New York City during the latter part of January summarizing inspection records showing decay of citrus fruit on arrival at this market, and checking up on an experimental shipment of oranges from Tampa, Florida, on the S. S. "Neches". This boat has been recently equipped with refrigerated space for 10,000 boxes of fruit and makes the regular run from Mobile, Alabama, to New York City via Tampa. This is the first regular refrigerated boat service from Tampa to New York City.

Newly-Found Zinc Spray for Peach Disease Discussed

Mr. Leslie Pierce, Senior Scientific Aid, delivered talks on the new zinc spray for the control of peach bacterial spot before the Southern Illinois Horticultural Society at Centralia, the Indiana Horticultural Society at Indianapolis, and the Tennessee Horticultural Society at Nashville. Dr. John W. Roberts, Senior Pathologist, has made similar talks before the Maryland Horticultural Society at Baltimore; the Peninsula Horticultural Society at Camden, Delaware; the South Carolina Peach Growers' Association at Columbia; and the Sand Hill Peach Growers' Conference at West End, North Carolina.

The new spray mixture, which these men announced at the Christmas meetings of the American Phytopathological Society in New York and at several horticultural meetings is a mixture involving the use of zinc sulphate, hydrated lime, casein lime or alum, in water. While the actual number of infected peaches, they stated, is not greatly reduced, the infections are smaller and less serious.

HORTICULTURE

The address of Geo. M. Darrow, entitled "Originating new Commercial Fruit Varieties for Preserving and Canning" given at the annual meeting of the National Preservers Association, January 22 in Chicago has been published in the February issue of The Glass Packer.

Radio material is being prepared by W. R. Beattie, Extension Horticulturist, for the use of the Radio Service of the Department, in four different broadcasting series. One program is being prepared each week for the Farm Flash series on some phase of the fruit and vegetable industry. Programs are also being prepared for the Primer for Town Farmers series, the Farm Forum and for the Housekeepers Chats. The Housekeepers Chats, edited by Miss Josephine Hemphill under the title of "Aunt Sammy" are unique and cover a wide range of subjects of interest to women and especially those living on farms. Mr. Beattie needs material for use in making up these programs and if any of the workers connected with this office have good leads that are suitable for general broadcasting over nearly 100 stations, or for any of the five general radio regions of the United States please submit them. Many good points for broadcasting may be obtained from correspondence handled in the various branches of the office.

Last month, while attending the Convention of the National Canners Association in Chicago, in an informal conference with a group of canners and seedsmen, Dr. V. R. Boswell, Senior Horticulturist, explained the purpose of the Vegetable Variety Standardization and Type Book studies which are being organized in this office. It was explained that the first object of the work is to establish adequate descriptions of ideal variety types of the vegetables studied, these ideals to be selected from the best available breeding stocks in the country with the assistance of collaborating technical workers, canners, seedsmen and vegetable growers. For the present no arbitrary attempts concerning classification nor nomenclature are to be made. It is believed that an adequate definition of an acceptable standard type of a variety will automatically be a decisive factor leading to the recognition of renamed varieties and synonyms. Dr. Boswell pointed out that the simplifying of nomenclature and the elimination of synonyms is to come from within the industry itself and that these studies are to afford a foundation for this.

Plans have been laid for collaboration with nine horticultural workers in eight different states in beginning this new work.

Sweet Potato Seedlings

Tests of sweet potato seedlings grown from seed produced in the Virgin Islands have been in progress since 1923 by Mr. J. H. Beattie, Associate Horticulturist. About 700 lots have been tried for vigor, productivity, disease-resistance, and quality, and the list narrowed by rejections until only about one hundred remain. Of these about thirty have been found to possess high edible and yielding qualities, good shape and color, and almost complete freedom from stem rot. Stocks of the better ones are being increased for further trial in different locations as it is believed that some at least may offer worthwhile additions to our existing list of varieties. The matter of suitable names for these seedlings is under consideration.

Dr. E. C. Auchter gave an after dinner address on Research at the Annual Meeting of the American Horticultural Society on February 12. He was introduced by the Department's Director of Research, Dr. A. F. Woods. Other members of the office attending the meeting were Irving W. Dix, D. Victor Lumsden, Furman Lloyd Mulford, J. Marion Shull and Dr. M. B. Waite.

At the annual election of the American Horticultural Society reported February 12, the election of three officers from this office was announced, F. L. Mulford as 1st Vice-President, D. Victor Lumsden, Secretary, J. Marion Shull, Director for two years.

CROP PHYSIOLOGY

DR. WALTER T. SWINGLE, Principal Physiologist is in Washington for a few weeks in connection with the planning of work for the remainder of the Fiscal Year, and the preparation of plans for new work begun last July in the study of rain-resistant dates, and the new work authorized by Congress in connection with the finding of Boron-tolerant Citrus stocks.

Mr. T. Ralph Robinson, Senior Physiologist, who has been in Florida and the Gulf States for some weeks making an inspection of the various field tests of Citrus hybrids and stock plants, is expected back in Washington shortly to assist in the working out of the detailed plans and equipment for the study of Boron-tolerant Citrus stocks in the Old World as well as in this country.

MR. ROY W. NIXON, Assistant Horticulturist, who has been in Mesopotamia since last September studying the date varieties of that region with particular reference to their rain-resistance, is returning to the United States within a short time. Mr. Nixon has been able to find the varietal names of some of the most important rain and moisture-resistant dates that up to now had not been identified.

MR. FRANK A. THACKERY, Senior Agriculturist, has been engaged for the past week with Mr. Robert H. Peebles and Mr. G. P. Rixford in a clean-up of the caprifig orchard at Loomis, California, in connection with the effort of California fig growers to eradicate the soft-rot disease of the Smyrna type of figs.

FRUIT DISEASES

MR. F. T. EAGAN, Scientific Aid, returned shortly before Christmas from Chicago where he had been engaged in cranberry storage studies during the fall.

DR. NEIL E. STEVENS, Senior Pathologist, spent the month of February in the South. Part of his time was devoted to strawberry investigations in Florida and part to a vacation and collecting trip in Cuba.

The middle of January Miss MARGUERITE S. WILCOX, Scientific Aid, left for Fort Valley, Georgia, where she will assist Dr. L. M. HUTCHINS, Pathologist, for a period of three months.

DR. C. L. SHEAR, Principal Pathologist, left Washington last week on a trip to Florida.

MR. R. B. WILCOX, Assistant Pathologist, has completed his raspberry work in Ohio and early in January moved with his family to his present headquarters at Toms River, New Jersey.

VEGETABLE DISEASES

DR. W. J. ZAUMEYER, Assistant Pathologist, has been authorized to attend a meeting of canning-company field men and bean growers at Geneva, New York, on March 6 to 8 for the purpose of discussing the diseases of snap beans. Immediately after the meeting he will leave for a three-week's trip to Florida, Georgia, and South Carolina where he will investigate the diseases of beans in those states.

MR. REINER BONDE, Assistant Plant Pathologist of the Maine Agricultural Experiment Station, has been appointed an Agent effective February 20 for the period of one month when he will investigate the potato seed-piece injury which has been so destructive in South Carolina. He will leave Orono, Maine, for Charleston, South Carolina, where he will conduct his field studies. En route he will confer with Dr. FREEMAN WEISS, Pathologist, in Washington.

HORTICULTURE

DR. DAVID GRIFFITHS, Senior Horticulturist, will leave shortly after March 10 for southern points to look after bulb investigations, mainly in the Carolinas.

Certain construction work has been in progress at the Stations at Willard, N. C., and Charleston, S. C., during the winter to facilitate the investigations at these two points.

Dr. L. C. Corbert and Mr. C. A. Reed recently met near Shreveport, La., for the purpose of considering land being offered by the Police Jury of Caddo Parish for the establishment of a federal pecan experiment station at that point. They were joined by Mr. W. T. Carter, Senior Soil Scientist of the Bureau of Chemistry and Soils, who has charge of the soil survey investigations in Texas, and whose headquarters are at College Station.

Several tracts of land had previously been submitted for consideration. These were reduced in number to two. Both are reported by these gentlemen as appearing to be admirably suited to the purpose. A definite decision as to which will be chosen is to be made at an early date, in order that the land may be occupied and the work started this spring.

Upon leaving Shreveport, Doctor Corbett and Mr. Reed proceeded eastward, the former returning to Clearwater, Fla., where he is spending the winter, and the latter stopping at Albany, Ga., for a three-day conference with Mr. J. L. Pelham, locally in charge of the U. S. Pecan Field Station at that point.

MR. P. M. LOMBARD has been conducting cooking and table quality tests, during the past two or three weeks, to determine the relative influence of different chemical plant food ratios on the resultant crop of potatoes. Aside from some color differences in the cooked product no very distinctive differences in table quality have been noted. A cooking test is now under way to determine the relative merits of several seedling potatoes. These studies are being conducted in one of the Bureau of Home Economics laboratories.

DR. C. F. CLARK of this office and A. E. Longley of the Biophysical Laboratory have been engaged in cytological studies of the potato with reference to the chromosome numbers of the different commercial varieties and the causes of pollen sterility in these varieties.

MR. WALTER M. PEACOCK and R. C. WRIGHT planted the first lot of suberized and fresh cut seed potatoes on the farms of Joseph M. Harrison, Charleston, S. C. on Feb. 7 and 8. The second planting was made on Feb. 12, 13, and 14.

The object of this experiment is to find a practical way to lessen injury to seed piece by the seed corn maggot.

DR. D. N. SHOEMAKER, Horticulturist, was at New York for a part of Convocation Week in December in attendance at the sessions of the Society for Horticultural Science. He also took this occasion to review the collection of Heleanthus tuberosus in the Herbarium of the New York Botanical Garden.

MR. D. VICTOR LUMSDEN gave a talk before the Garden Club of Petersburg, Virginia on Flower Shows on February 4.

MESSRS. W. R. BEATTIE and F. L. MULFORD participated in a pruning demonstration of the Woodridge Garden Club on February 22.

At the annual meeting of the Maryland Horticultural Society in Baltimore, January 9, DR. GEO. M. DARROW discussed 'Factors Influencing the Profitable Production of Strawberries and Raspberries.' In this new developments in the Strawberry Industry were reviewed.

MR. H. C. DIEHL, Associate Physiologist of the Wenatchee Laboratory recently spent a couple weeks in Washington in connection with the spray residue removal. En route east he gave a paper before the National Preservers Association at their annual meeting in Chicago, January 22, and on the frozen pack method of preserving fruit and made a survey of the apples in storage in Chicago, Kansas City, and St. Louis. He is, at present, getting in touch with the cold storage companies and markets in the east in connection with the handling of frozen pack fruit at the receiving points. On his trip to Wenatchee, he will visit California to consult with the apple washing machine manufacturers in regard to plans for the coming season's work on spray residue removal. He will reach Wenatchee about the middle of March.

DR. L. A. HAWKINS, Principal Physiologist made a trip to St. Paul during the week of the 18th to meet two transportation test trips with apples from Yakima and Wenatchee, Washington, which arrived at St. Paul on the 18th and 19th. MR. E. D. MALLISON, Assistant Marketing Specialist, J. C. Moore, Jr. Physiologist and E. A. Gorman, Scientific Aid of this office and W. V. Hukill of the Bureau of Public Roads accompanied these test trips from shipping points to St. Paul. They reported good weather for heater test trips, sub zero temperatures being encountered on both trips, ranging as low as 24° below zero. The three new types of heaters under test were efficient in protecting the lading under these conditions.

The standing heater test which has been carried on in cooperation with the Northern Pacific and Great Northern Railroad and Washington apple shippers at Havre, Mont., since early in December with six cars of apples was concluded in the early part of February. Mr. E. D. Mallison and J. C. Moore were there throughout the entire test and Mr. E. A. Gorman of this office and W. V. Hukill of the Bureau of Public Roads were there part of that time. During the last three weeks of the test, sub zero temperatures were encountered practically every day sometimes ranging as low as -40°. The test was very successful in establishing the fundamentals for protecting the lading from freezing injury.

MR. GEO. C. HUSMANN in charge of the Department's Grape Investigations is calling special attention to an exhibit in Room 404, 220 - 14th St., S. W., of 16 different kinds of raisins cured during the last vintage in the Department's Experiment Vineyard near Fresno, California. These raisins are the product of 16 special varieties under test and study, are all of them dual purpose grapes of exceptional high quality and have special merit as table, shipping and storage grapes besides curing into excellent raisins.

Mr. A. G. Galloway, Principal Scientific Aid, has been carrying on precooling investigations with strawberries at Plant City, Florida. Using a method of precooling developed in 1928, which consisted of small motor driven blowers dropped in the bunkers of loaded and iced refrigerator cars, very satisfactory results were obtained. By properly adjusting these blowers and regulating the openings from the bunkers into the cars, it was found possible to lower the temperature of the fruit in a car of strawberries at a rate of 4 degrees or more per hour, dependent upon the amounts of salt used in the bunker ice and the loading temperature of the berries. In five or six hours, it was possible to cool a load of berries to a good carrying temperature, the top layers of the load being cooled the most rapidly. Results obtained so far indicate that this method of precooling is economical, simple, and efficient.

To overcome inability of the ordinary Florida type of pony refrigerator to efficiently transport strawberries at certain times during the shipping season, insulated ponies have been developed under the supervision of Mr. Galloway and are being tested in comparison with the Florida boxes. The latest of these insulated refrigerators weigh from 20 to 30 pounds less than the ordinary pony, have a more rapid cooling rate due to an interior arrangement similar to a refrigerator car, maintain lower temperatures and consume less ice. Due to the use of a galvanized iron lining, these new boxes can be kept in a more sanitary condition than is possible with the ordinary wooden box. Another advantage in regard to protecting the fruit against wetting, caused by the condensation drip, is the elimination of top ice pans.

Mr. W. T. Pentzer, Assistant Marketing Specialist, and M. H. Haller, Assistant Pomologist, returned from New York City and Philadelphia recently, where a survey of western apples and pears in storage was made. Over eighty cars of fruit were inspected, most of them having been shipped from Oregon, Washington, and California. Only three lots out of those inspected showed injury that could be attributed to washing and the extent of this injury was not especially serious. Interviews with the principal dealers in New York indicated they were generally unconcerned over the washing of fruit and were by no means opposed to it. In Philadelphia, several dealers were apprehensive over the keeping quality of washed fruit but had experienced no difficulty with washed fruit during the past year.

THE OFFICE OF HORTICULTURAL CROPS AND DISEASES

S E M I - M O N T H L Y N E W S - L E T T E R

The Official Organ of the Office of Horticultural Crops and Diseases, Bureau of Plant Industry, United States Department of Agriculture.

W. A. Whitney, Editor

All material contained herein is confidential and is not for publication without the approval of the Office of Horticultural Crops and Diseases.

Volume One Washington, D. C., March 15, 1929 Number two

BLUEBERRY KEEPING-QUALITY EXPERIMENTS REVIEWED AT GROWERS MEETING

On February 9, R. B. Wilcox attended the meeting of the Blueberry Cooperative Association at Pemberton, New Jersey, for the purpose of discussing with the members the coming season's work on blueberry diseases and of presenting the results of last year's tests on the keeping quality of the new varieties of blueberries. This work is attracting much attention among blueberry growers and the results have been well received by them. Speaking of the disappointing results with the Concord variety, Mr. Wilcox stated "...the berries of this variety were over-ripe when picked for test. Some of them, particularly those used in the final test, had been left on the bushes for some time and had not been picked at weekly intervals as is customary commercially. I believe that at that time the claim was made that this berry would stand this treatment as would no other variety. Throughout the tests, however, the Concord and Cabot agreed in showing very poor keeping quality. It might also be justly claimed for the Cabot that the tests included only the latter part of its fruiting season, when its keeping quality was declining. However, the behavior of these two varieties in tests was not consistently poor, but observations made at the time of picking showed that these two almost always tore loose from the stem in such a way as to rip the skin of the berry, often leaving a bit of skin on the stem, and making a wound which would obviously lower the keeping quality of the fruit. This very tender skin seems to accompany very good eating quality, but for keeping quality it is an inherent defect. Our experiments next season will, I think, prove that Concord is not in a class with Rubel as regards keeping quality.".

Miss Elizabeth C. White, long prominent in blueberry work and now president of the American Cranberry Growers Association, writes "...the summary of the rapid development of the work and the retiring of old varieties for new and better ones presented by a group of scientific workers of good standing, who are not directly connected with the commercial end of the industry, is of the

greatest value in helping to keep the thoughts of some members of our association in line. I was wonderfully pleased with the whole trend and atmosphere of our meeting on Saturday..." Sidney B. Hutton, secretary of the Blueberry Cooperative Association, writes "The report on the keeping quality of blueberries which was read at the meeting of the Blueberry Cooperative Association on the 9th was very favorably received, and the secretary was instructed to furnish copies of it to all members of the association... The purpose of my letter is to let you know of the very genuine interest of the members of the Association in this work, and their desire for its continuance."

EVAPORATION EFFECTS ON STOCK CULTURES DISCUSSED AT LOCAL BOTANICAL SOCIETY MEETING

Based on the theory of action of mechanical refrigerators, on the claims of manufacturers of these appliances, and on the very limited data showing actual performance records in mechanical and ice-cooled refrigerators, it is a commonly accepted notion that the atmosphere of a mechanical refrigerator is relatively dry, that of an ice-cooled refrigerator relatively humid, said Freeman Weiss and W. A. Whitney, in a paper before the Botanical Society of Washington on February 5. The cause of the relatively drier atmosphere in mechanical refrigerators is, of course, of the condensation of moisture as ice (freezing out) on the evaporator coil, which is usually maintained below 0° C., as contrasted with the giving off of moisture from melting ice in the other type of refrigerator. The opinion that mechanical refrigerators are drier than ice-cooled ones overlooks the fact that the temperatures ordinarily maintained in the two types of refrigerators also differ, and that the circulation of air within the chamber, and the rate of air exchange with the surroundings also have an important effect on the evaporating power of the internal atmosphere.

Stock fungous cultures are stored in refrigerators principally in order to reduce evaporation and for this purpose mechanical refrigerators have sometimes been considered undesirable.

A comparison of the evaporation rate as measured by porous-cup atmometers in two refrigerators of generally similar construction and maintained at approximately the same temperature (48-49°F.) one cooled by ice, the other by a standard refrigerating mechanism, showed that the rate was higher in the ice-cooled chamber, the comparative measures being 0.241 and 0.534 cc. per hour during a test period of 4,008 hours. Uninoculated tubes of an agar culture medium also showed greater drying out in the ice-cooled chamber, the water loss being 0.487 gr. per tube as compared with 0.446 gr. per tube in those stored in a mechanical refrigerator.

In this instance, the lower evaporation rate in the mechanical refrigerator is attributed to its more equable temperature and a generally higher humidity. No freezing out of moisture occurred when the mechanical refrigerator was maintained at this temperature. A brief account of the physical factors influencing evaporation was given.

IMPORTANT NOTICE TO CONTRIBUTORS

Your attention is called to the deadlines for the NEWS-LETTER, which are the eighth of the month for the issue of the fifteenth and the twenty-third for the issue of the first of the month following. You are requested to have your material in the hands of the editor (Room 220, West Wing) before 4.30 p.m. of those days. It would be greatly appreciated if material were submitted double-spaced and events stated in terms of the day and month, since it often happens that verb tenses must be altered to agree with the facts, as material submitted may include happenings on, before, or after the date of issue. Any material which has an official bearing on the activities of the personnel will be gratefully accepted. --W. A. WHITNEY, Editor.

MARASCA CHERRIES

The marasca cherries, from which maraschino cherries are prepared and which are used more or less in the preparation of glace cherries and certain other cherry products, are not grown in this country at the present time. Some 60,000 barrels of them are imported each year, mostly from Italy. They are pitted and put in barrels in brine or in sulphurous acid and imported thus preserved in the raw state.

The preparation of the cherry products is done in this country. There are perhaps 10 or a dozen different firms which use this type of cherry extensively. The business is apparently growing. There is no known reason why this type of cherry can not be grown in this country. The cherry that is best suited for these purposes is a small, very firm, light-fleshed fruit. It seems quite probable that in the regions where old seedling mazzard cherries occur there may be individual trees which produce this type of fruit. Ordinarily where the fruit of such trees is gathered and utilized the particular type of cherry that is desired in this connection would be ignored entirely because of its small size.

In the pomological work of this office it is now proposed to give some rather serious attention to this type of cherry growing. If any of the members of the staff located in the field or elsewhere know of seedling mazzard cherry trees which produce the desired, small, firm, light-fleshed fruit, they will confer a favor if they will notify H. P. Gould here at the Department of Agriculture in regard to it. The growers in Italy use a number of named varieties which are propagated in the nurseries in that country. Their adaptability to the conditions here is problematic. If we can find the right type of cherry already growing here, it is believed that it can be made of material value in developing a new type of domestic cherry industry. None of the varieties of sweet cherries now in the trade are suitable for making the products in question. The fruit is too large and the flesh is not sufficiently firm.

NUT CULTURE

Milo N. Wood, with office in Sacramento, California, is at present at work on almond breeding studies. The blossoming season begins in late January with the earliest varieties and continues until March with the latest kinds.

Mr. Wood has been at work on this problem for several years, and by top-grafting young seedlings on trees of bearing age has already brought several thousand into bearing. Of these 20 were recently selected by him as having considerable promise. These have since been carefully inspected by a number of California's leading almond experts and the number reduced to one, upon which all seem agreed as to its having particular promise.

This year, for the first time, Mr. Wood has been able to devote some time to filbert breeding in an orchard planted by the late Felix Gillet of Nevada City, California.

NEW APPOINTMENTS

Dr. Paul W. Miller, formerly instructor in plant pathology at the University of Wisconsin, has been appointed Agent at Hood River, Oregon, to assist Dr. J. S. Cooley in the investigation of the perennial canker of apples. Doctor Miller reported for duty on March 8.

Mr. Howard E. Parson has been appointed to the position of Junior Pathologist at Thomasville, Georgia, to assist Mr. J. B. Demaree in the investigations of pecan and other nut diseases. Mr. Parson reported for duty on February 2.

MANUSCRIPTS APPROVED FOR PUBLICATION

The following manuscripts have received approval for publication:

"Pea Diseases in the United States in 1928." By M. B. Linford, Collaborator, Office of Mycology and Disease Survey, formerly Associate Pathologist, Office of Horticultural Crops and Diseases. For publication as Supplement 67 of the Plant Disease Reporter.

"Fourth Annual Report of Experiments on Tomato Diseases and Soil Problems for the Season 1927-28." By F. J. Pritchard, Senior Physiologist, and J. J. Skinner, Senior Biochemist, United States Department of Agriculture; and R. W. Ruprecht, Chemist, and G. F. Weber, Pathologist, Florida Agricultural Experiment Station; in cooperation with the Dade County, Florida, Commissioners and Tomato Growers of Dade County. Mimeographed for limited circulation.

"A Method of Testing the Keeping Quality of Blueberries." By Neil E. Stevens, Senior Pathologist. For publication in Phytopathology.

"A Pink Poinsettia Chimera". By T. Ralph Robinson and Geo. M. Darrow, Authorized to publish it in the Journal of Heredity.

ADMINISTRATIVE DECISIONS AND NOTES

(Under this heading, from time to time, will be carried digests of decisions of the Comptroller-General and others which have a direct bearing on the activities of the office. Copies of the full decisions are on file and may be procured for the asking. --Ed.)

DOUBLE COMPENSATION (A-25121; 8 Comp. Gen. p. 261) -- In determining whether the combined amount of more than one salary received in more than one position exceeds the authorized maximum of $2,000 per annum, the basis is the rate per annum of the combined salaries and not the aggregate amount actually received during a portion of the year, whether the measure of time for payment under one or more positions be per annum, per diem, or per hour, it being necessary to determine in each instance the per-annum rate equivalent to the rate based on a measure of time less than a year.

REALLOCATION OF CIVILIAN EMPLOYEES TO A LOWER GRADE (A-25192; 8 Comp. Gen. p. 275) -- Upon reallocation of a position by the Personnel Classification Board from a higher to a lower grade, the initial salary rate properly payable is the minimum salary rate of the lower grade in which the position is reallocated, and any administrative promotion thereafter to a higher salary rate in the lower grade depends on the availability of appropriation, the comparative efficiency of the employee, and compliance with the average provision.

P E R S O N N E L N O T E S

CROP PHYSIOLOGY

The Journal of Heredity for February contains a paper on "The Nurse-Grafted Y-Cutting Method of Plant Propagation," effectively illustrated, which will be of more than passing interest to members of the staff of Horticultural Crops and Diseases who keep in touch with improvements in methods of plant propagation. The paper is contributed by WALTER T. SWINGLE, T. RALPH ROBINSON, and EUGENE MAY.

T. RALPH ROBINSON reached Washington on March 4 after spending several weeks in Florida inspecting work at the various cooperative testing tracts di-

rected by this unit.

DR. TYOZABURO TANAKA, Director of the Tanaka Citrus Experiment Station of Japan as well as Professor of Horticulture in the Taihoku Imperial University, has returned to Japan after a several months' visit to this country. Doctor TANAKA, who formerly served as Botanical Assistant in Crop Physiology and Breeding, and who still serves it as a collaborator, delivered an interesting address before the Synopsis Club of the Citrus Experiment Station, Riverside, California, just before sailing. The paper is printed in the California Citrograph for February, under the title "Citrus Survey in the Orient Region."

In connection with his studies of the date varieties of the Iraq, ROY W. NIXON has been able to secure some excellent motion pictures of various activities in the date regions of Mesopotamia. Several rolls of film recently developed and printed by the Motion Picture Laboratory are among the best yet taken by an agricultural explorer.

FLORICULTURE AND LANDSCAPE GARDENING

F. L. MULFORD is expecting to give a talk on shrubs at Opequon, Virginia, before the Winchester, Virginia, Garden Club on March 20.

The section of landscape gardening has just completed a series of planting plans for school grounds and semi-public buildings for the Agricultural Extension Division of Louisiana State University. This completes a series that it is believed will be most helpful to them in furthering their work as well as serving as examples for similar problems in other parts of their State.

Ornamental Horticulture is represented, by an article appearing each week, in the special news service of the Associated Press. D. VICTOR LUMSDEN submits these articles, which are written by various members of the staff of the Bureau of Plant Industry. The first article will appear in newspapers throughout the country the week of March 25.

FRUIT DISEASES

J. S. COOLEY, stationed at the Hood River, Oregon, field laboratory, recently gave an illustrated lecture at Hood River on plant diseases.

J. J. BOWMAN is spending several weeks at the Canker Disease Field Laboratory, Orlando, Florida, assisting in the spring rush of work.

The winter capital of the strawberry industry -- Plant City, Florida,-- is naturally receiving much attention this month. A. G. GALLOWAY AND NEIL E. STEVENS have returned to Washington but CHARLES BROOKS is still there

At the urgent request of B. T. GALLOWAY, who spends the winters in Florida, and takes much interest in the strawberry work, the office paid the expenses of G. STEINER of the Office of Nematology to go to Plant City, Florida, and study the relation of nematodes to the strawberry diseases which are attracting so much attention in the southern States.

J. HAROLD CLARK, Associate Pomologist of the New Jersey Agricultural Experiment Station, visited the Office on March 11 and 12. He came down especially to look at the work of Messrs. DARROW and WALDO on the effect of artificial light as a supplement to daylight in strawberry breeding, and in their study of varietal adaptation.

HORTICULTURE

The forwarding of distributions of vines and cuttings pertinent to vinifera culture from the grape nursery in the departmental experiment vineyard at Oakville, California, is about completed reports FRED L. HUSMANN. This year, in addition to distributions to private investigators in various parts of the country, special distributions of cuttings and rooted vines were also sent to the experiment stations at Saint Croix, Virgin Islands; Geneva, New York; Clemson College, S. C.; Logan, Utah; and Mountain Grove, Missouri; as well as to Dr. L. TRABOT, Government Botanist, Algiers, Algeria; Hon. G. D. ROSS, Under Secretary, Department of Agriculture, Sydney, New South Wales, Australia; and the Bureau of Agriculture, Philippine Islands.

Collections of seed of grape varieties have been sent by GEO. C. HUSMANN to Dr. LUDOVICI at La Oratoria, Tenerife, Canaries, Spain, and to the Botanic Garden, College of Agriculture, Miyazakai-shi, Japan. This seed was secured and prepared for shipment at the departmental vineyards at Fresno and Oakville, California, and at the Arlington Experiment Farm, Rosslyn, Virginia.

ELMER SNYDER, in charge of the experimental vineyard at Fresno, California, has just completed applications of alfalfa cut last summer as a vineyard fertilizer.

Mr. R. C. WRIGHT, has just returned from a field trip to Charleston, S. C., in connection with the cooperative experiments of the Bureau of Entomology on suberization of seed potatoes.

Mr. A. G. GALLOWAY is leaving for Florida to carry on some experiments with the new portable precooling plant in the precooling of strawberries. He will return by the way of Miami and assist in a transportation-test trip with the newly refrigerated SS Shawnee of the Clyde Line.

Dr. D. H. ROSE and Mr. A. G. GALLOWAY are testing the pony refrigerators in cooperation with the American Railway Express Company. Shipments are being made from Plant City, Florida, to Baltimore, Maryland, and Washington, D. C.

E. C. AUCHTER, G. M. DARROW, D. GRIFFITHS, and H. E. ALLANSON, will visit the North Carolina Coastal Plain Station at Willard on March 13. Dr. AUCHTER will return the next day and the others will remain to follow out their particu-

lar problems. Mr. ALLANSON and Doctor GRIFFITHS will proceed from Willard to the United States Acclimatization Field Station on James Island, near Charleston, South Carolina, the next day.

All-metal grape trellises have been tested and found to be cheaper, better, neater, and more lasting than wooden ones, according to information received recently by GEO. C. HUSMANN, who planned their construction for the training of new grape immigrants under test at Fresno and Oakville, California.

"Temperature Influence on Yield of Peas and upon Canning Quality" was the title of a talk delivered before the Extension School for Canners' Field Men at Geneva, New York, on March 6, by V. R. BOSWELL.

VEGETABLE AND ORNAMENTAL DISEASES

On February 19 PHILIP BRIERLEY left his field station at Corvallis, Oregon, for a month's trip to Santa Ana, Chula Vista, Sacramento, and other points in southern California, where he will make a general survey of the diseases of ornamental bulbs with special reference to iris and freesia.

At the Extension School for Canners' Field Men held March 6 to 8, at Geneva, New York, W. J. ZAUMEYER spoke on "Bean Diseases and Best Sources of Bean Seed."

L. D. COULTER, of the D. M. Ferry Seed Company, conferred with L. L. HARTER on March 8 regarding the diseases of beans with special reference to seed-bean production.

THE OFFICE OF HORTICULTURAL CROPS AND DISEASES

S E M I - M O N T H L Y N E W S - L E T T E R

The Official Organ of the Office of Horticultural Crops and Diseases, Bureau of Plant Industry, United States Department of Agriculture.

W. A. Whitney, Editor

All material contained herein is confidential and is not for publication without the approval of the Office of Horticultural Crops and Diseases.

Volume One Washington, D. C., April 1, 1929 Number Three

SEED POTATO IMPROVEMENT CONFERENCE HELD IN CHICAGO

A potato conference was held at the Stevens Hotel, Chicago, Ill., March 21, for the purpose of discussing a nation-wide cooperative seed potato improvement program of work. The following delegates were present: C. L. Vincent, Pullman, Washington; O. H. Elmer, Manhattan, Kansas; A. F. Yeager, Fargo, North Dakota; C. L. Fitch, A. T. Erwin, and B. S. Pickett, Ames, Iowa, and Sam Kennedy of Clear Lake, Iowa; W. H. Alderman and F. A. Krantz, University Farm, St. Paul, Minnesota; J. G. Milward, Madison, Wisconsin; J. J. Pieper, Urbana, Illinois; H. C. Moore, East Lansing, Michigan; C. H. Myers, Ithaca, New York; T. C. Johnson, Norfolk, Virginia; and E. C. Auchter and W. Stuart, Washington, D. C. The meeting was called to order by Doctor Auchter, who stated the purpose of the conference and suggested the selection of a chairman and secretary, which resulted in the election of Doctor Auchter as chairman and W. Stuart as secretary.

After a full expression of opinion by each representative present in regard to the potato investigational work that might be cooperatively undertaken it was unanimously agreed that the development of new varieties possessing greater resistance to the various diseases affecting the potato, especially those of a virus nature, was very desirable. Varieties more resistant to heat, cold and drought, and those showing greater vigor, productiveness and uniformity in size and shape, shallow eyes, and attractive skin color and good cooking and table quality were also emphasized as very important needs in seed potato improvement work. Among other tentative cooperative plans, definite arrangements were made to establish a seedling production and testing station at Ames, Iowa, where seedlings may be grown from hybridized seed produced in Maine, Minnesota and such other States where potato breeding work may be conducted. The cooperative testing of seedling potatoes on a small scale is contemplated with several experiment stations. An exchange of cross-bred seed between the Government and those States conducting breeding work was also arranged. The outstanding feature of this conference was the splendid cooperative spirit manifested by all present. It augurs well for a more speedy solution of many of our potato problems.

METHODS FOR PEANUT IMPROVEMENT DISCUSSED

J. H. Beattie addressed the National Peanut Shellers and Cleaners Association at Norfolk, Virginia, on March 12, on "Improving the Peanut Crop," with special reference to peanut seed problems. Owing to the increasing demand for large-kerneled peanuts, growers are anxious to plant seed stocks that will yield a crop carrying a larger proportion of large kernels. In the discussion it was pointed out that the size of peanuts is dependent on the inherent qualities of the particular strain. Much can be done to improve the size and quality of the crop by using seed from strains which typically carry a large proportion of large kernels. It was also pointed out that little good can be accomplished by merely screening out large seeds from lots which do not have inherent qualities for size. As a result of this conference the Office of Horticultural Crops and Diseases, Extension Service, the National Peanut Shellers and Cleaners Association, growers, and others interested in the welfare of the industry are actively cooperating in improving the Virginia-type peanut crop by advocating the use of better seed and the employment of improved fertilizer and cultural practices.

HOW OLD IS ANN?

The following story apparently extends backward well toward the Old Stone Age. It is even yet on duty in the southern United States; it was written home from South Carolina by Civil War soldiers; and 103 years ago was widely disseminated over the civilized world as is shown by the following quotation from the Gardeners' Magazine of London, England, under date of 1826:

Mr. William Hall, late of Ewell, Surrey, and now of Wanbro, Edwards County, Illinois, writes of the sweet potato: "It is here very productive and produces large roots, but not so big as in more southern climates, where it is said to grow so large as a man's thigh, and so long that the negroes sometimes sit upon one end while the other is roasting."

MOIST-FLESHED VARIETIES OF SWEET POTATOES IN CALIFORNIA MARKET

G. P. Rixford recently observed moist-fleshed varieties of sweet potatoes on San Francisco markets. This type of sweet potato is often referred to as "yams," but this name properly belongs to an entirely different plant which is grown only in the extreme South. The sweet potatoes observed by Mr. Rixford had been shipped from Arkansas and Kansas. As freight charges were very high, and Mr. Rixford wished to know about the behavior of this kind of sweet potato in California, he requested his Superintendent to try the experiment of raising them on his little farm in Santa Clara County. Although planted in August the experiment was a success. Mr. Rixford plans to make an earlier planting this season. His results are in accord with the experience of others, for as a matter of fact the moist-fleshed sweet potato represented by such varieties as

Porto Rico and Nancy Hall can be grown in any location adapted to sweet potato culture. California could undoubtedly produce any desired quantity of sweet potatoes of this character.

SHAKESPEARIAN GARDEN TO FEATURE FRISCO'S SPRING GARDEN SHOW

A Shakespearian Garden in Golden Gate Park, San Francisco, for which G. P. Rixford has been asked to furnish trees which were growing in Shakespeare's and Queen Elizabeth's time, is planned as one of the features of the Spring Flower Show. It was possible to furnish two such plants for this purpose. One was the sour orange, called "Brigardier" by the French, which was introduced into southern Europe and England by the Arabs about the tenth century and is the most resistant to frost of all oranges and the only one growing in England without protection long before the sweet orange was introduced. The other fruit tree was the damson plum, which is mentioned in one of Shakespeare's sonnets.

CHANGES IN PERSONNEL

The appointment of H. F. Bergman, as Senior Pathologist, has been approved effective June 1. Doctor Bergman resigns the position of Professor of Botany, University of Hawaii, to return to this Bureau. For the present his work will be confined chiefly to the study of cranberry diseases with special reference to injury to cranberry buds caused by flooding water. The chief method of insect and frost control on cranberry bogs is flooding.

Arrangements have been made for Mr. Howard J. Kumin to assist in the strawberry disease investigations, with headquarters at Bell, Maryland, and for Dr. Marion G. Goldsworthy to help Dr. Fisher in his work on smelter injury in the Northwest, both appointments effective March 16.

MANUSCRIPTS APPROVED FOR PUBLICATION

The following manuscripts have been approved for publication:

9. "Inheritance of Fusarium Resistance in Cabbage," By J. C. Walker, Senior Pathologist. For publication in the Journal of Agricultural Research.

10. "Disinfection of Seed Potatoes to Prevent Disease." By Freeman Weiss, Pathologist. For publication as a Miscellaneous Publication (Leaflet).

ADMINISTRATIVE DECISIONS AND NOTES

(Under this heading, from time to time, will be carried digests of decisions of the Comptroller-General and others which have a direct bearing on the activities of the office. Copies of the full decisions are on file and may be procured for the asking.--Ed.)

AMENDED TRAVEL REGULATIONS NOW IN EFFECT -- Your attention is called to the new edition of "Standardized Government Travel Regulations" as amended and effective March 1, 1929. If you have not already received a copy of these regulations and P. B. A. Circular No. 114, in which salient points are noted, you are requested to communicate with C. E. Schoenhals.

NEW USAGE FOR MANUSCRIPTS ANNOUNCED -- The following memorandum to Chiefs

of Bureaus and Offices from M. S. Eisenhower under the date of March 15 is hereby called to your attention:

"You are hereby advised of two recent decisions of the Public Printer. The first is that the Government Printing Office adopt in mathematical equations the use of italics for all symbol letters--capitals, lower case, small capitals, and superiors and inferiors (exponents and subscripts)-- and roman for Arabic numerals. Letter symbols for chemical elements and other terms, however, are to be in roman. Printed slips showing the form to be used hereafter in mathematical equations are attached.

"The second, resulting from an official recommendation from the Department of Agriculture, is that the Government Printing Office adopt as authority for the spelling of common names of plants the catalogue issued by the American Joint Committee on Horticultural Nomenclature under the title "Standardized Plant Names," with the exception that hyphens be not used in the terms listed below:

Douglas fir	Southern white cedar
Incense cedar	Northern white cedar
Western red cedar	Southern cypress
Southern red cedar	Red gum
Eastern red cedar	Yellow poplar

"A list of all the names in Standardized Plant Names which are either not given in Webster's New International Dictionary or which are compounded or hyphenated differently from the forms appearing there has been sent to the Government Printing Office and will be printed as an amendment to the Style Manual.

"Manuscripts should hereafter be prepared in accordance with these decisions. In the case of periodicals, however, it may be well to commence making these changes with the first number of the next volume.

CONTRACTS --PURCHASES OF INDEFINITE QUANTITIES. (A-24969. 8 Comp. Gen. 354)-- While it may be proper in inviting bids and making contracts for the furnishing of supplies to provide for a reasonable variance from the quantities stated, this should be done by specifying not exceeding a maximum percentage for such variance--such as 10 per cent or 20 per cent, depending upon the articles or supplies to be purchased--so that a bidder may know the maximum quantity he may be called upon to furnish, and the maximum amount of the obligation against the appropriation may be determined at the time the contract is made. Where it is found that a quantity in excess of the maximum percentage variance is required such excess should be purchased independently of the original contract and after proper advertising.

SUBSISTENCE EXPENSES--EMPLOYEE USING OWN AUTOMOBILE. (A-25243. 8 Comp. Gen. 357)-- Under regulations of the internal revenue, limiting reimbursement of subsistence expenses or per diem when travel is by own automobile to not exceeding what the employee would have been entitled to had he traveled by train, there is for consideration so far as subsistence is concerned only the time which would have been required for the journey by train. If such time is less than 24 hours only actual expenses for the number of meals involved are payable.

ADVERTISING--BIDS--ACCEPTANCE ON BASIS OF ELEMENT NOT MENTIONED IN ADVERTISEMENT (A-25283. 8 Comp. Gen. 299) -- A bid should not be accepted because the bidder proposes to do the work in less time than the lowest bidder when the advertisement for proposals has not notified all concerned that the time element would be considered in the acceptance of bids.

TRAVELLING EXPENSES -- PULLMAN RECEIPTS. (A-25599. 8 Comp. Gen. 391)-- Paragraph 95 (r) of the Standardized Government Travel Regulations requires that receipts be furnished in support of travel voucher claiming reimbursement for sleeping-car, parlor-car, and stateroom fares when paid in cash, and an affidavit that such receipts have been lost can not be accepted as authorizing reimbursement of such expenses. 3 Comp. Gen. 775 no longer applicable. 6 Comp. Gen. 116 distinguished.

CLASSIFICATION OF CIVILIAN EMPLOYEES--TRANSFERS TO NEW POSITIONS. (A-25703. 8 Comp. Gen. 393) -- When a new position is created by the administrative office and finally allocated as provided by law, the administrative office may transfer to the new position an employee from a lower or higher grade without reduction in salary, provided there is a salary rate in the grade to which transferred equal to or greater than the salary rate being received at time of transfer. 8 Comp. Gen. 275 distinguished.

TEMPORARY EMPLOYEES OVER AGE FOR RETIREMENT. (Decision of Comp. Gen. unnumbered.) -- Persons who have passed the age for retirement fixed by the act of May 22, 1920, 41 Stat., 614, may not lawfully be employed in temporary positions required to be filled in accordance with the civil service laws and regulations.

P E R S O N N E L N O T E S

CROP PHYSIOLOGY

A notable party sailed from San Francisco on the Steamship "President Grant" at 4:00 p.m., March 1. The party is headed by P. H. Dorsett and includes his daughter-in-law, Mrs. Ruth Dorsett, and Mr. W. J. Morse, of the Office of Forage Crops, Mrs. Morse and their daughter. During the three years which they expect to be away, they are to call at Japan, north and south China, and the East India Islands, including Sumatra and Borneo. Many of these regions are virgin fields for agricultural explorers and they are likely to find many valuable products for the United States.

FRUIT DISEASES

H. F. BAIN left March 29 for Wisconsin Rapids, Wisconsin, where he will be stationed during the season. This unusually early beginning of field work in Wisconsin is made necessary by several unusual circumstances, among which may be mentioned the fire which occurred in the building where the laboratories are located. As far as can be learned by correspondence, there has been no serious injury to equipment or furniture, but the laboratory floor is reported to be

several inches deep in charcoal and plaster. Through cooperative arrangements with the Wisconsin Department of Agriculture, Mr. BAIN will occupy the same laboratory which he fitted up as Specialist in cranberry diseases for that Department. His successor in the above position is L. M. ROGERS, who has, at various periods, served as field assistant in cranberry disease investigations on Cape Cod.

JOHN R. COLE, an Associate Pathologist in the pecan disease work, will transfer his headquarters from Thomasville, Georgia, April 5, to Lafayette, Louisiana. Mr. COLE and Miss MILDRED VIRGINIA JACKSON were married at Baconton, Georgia, on March 26.

HORTICULTURE

CORRECTION. In the statement appearing in the last issue, regarding the distribution of grape vines and cuttings, the Dry Land Agriculture Field Station at Woodward, Oklahoma, was inadvertantly omitted. The Botanic Garden, College of Agriculture, Miyazakai-shi, Japan, was furnished seed of species and not seed of varieties, as indicated. The statement regarding grape trellises referred to modest tests now in progress on the merits of metal posts and not to experiments concluded on trellises composed entirely of metal. We greatly regret the occurrence of the errors. --Editor.

L. C. KREIGER returned March 22 from a six-weeks' trip to Cuba, where he has been making drawings of sugar-cane varieties and diseases for the Tropical Plant Research Foundation.

C. W. CULPEPPER and H. H. MOON have published three papers reporting upon several phases of their studies of the factors concerned in corrosion in canned fruits and vegetables, as follows:

"Corrosion of Iron and Tin in Relation to Gas Pressure in Tin Cans." The Canner, 67(25): 13-15. 1928.

"Specific Gravity Determinations as a Guide in Selection of Suitable Material for Canning and in Effective Control of Exhaust." The Canner, 68(8): 21-24. 1929.

"The Corrosive Action of Organic Acids upon the Tin Can." The Canner, 68(9): 13-16. 1929.

R. C. WRIGHT left New York 3 p.m. March 19 on the Clyde Line steamer "Shawnee" en route for Miami, Florida, leaving Miami the 25th. He accompanied shipments of mixed vegetables in transportation test trip from Miami to New York. A. G. GALLOWAY, who has finished his precooling investigations at Galloway, Florida, accompanied Mr. WRIGHT in the transportation-test trip from Miami to New York.

H. C. DIEHL has returned to headquarters at Wenatchee, Washington, after an extended trip through the east in connection with his storage investigations.

J. C. MOORE has moved to California to assist in the transportation and

storage work with citrus fruits. He motored down from Yakima to Los Angeles.

DEAN H. ROSE was in New York March 18 to 23 inspecting shipments of strawberries which were precooled in Florida and unloaded in New York.

JAMES G. GRAY, Jr., left for Lamanda Park, California, March 17, and will assist W. R. BARGER in the citrus handling and storage.

W. T. PENTZER and MARK H. WALKER were inspecting pony shipments of strawberries Friday, March 22. They report the shipments in the U. S. D. A. pony refrigerators, designed and built by Mr. GALLOWAY, to be in much better condition than the old type.

The first consignment of 40 new varieties of roses for the National Rose Test Garden at Arlington Experiment Farm have been received and planted. Eighty-five additional varieties are expected in a few days from three other American sources. These are practically all Tea and Hybrid Tea varieties. There are a few Pernetianas, however. They will be used as mother plants from which propagations will be made for later testing for abundance of bloom, vigor of growth, hardiness, and general adaptibility for outdoor culture in this climate.

F. L. MULFORD is expecting to address the Dolly Madison Garden Club at Orange, Virginia, on April 3, on "Chrysanthemums"; the Magic City Garden Club of Roanoke, Virginia, on April 4, on "Broadleaf Evergreens"; and the Roanoke Rose Society on April 4 on "Roses for Roanoke."

L. C. CORBETT returned to the Office on March 19, after a two months' sojourn in Florida and Louisiana. In Florida an inspection was made of the cooperative activities between the State and the Department, as well as the more important commercial horticultural industries, including strawberries, vegetables and citrus fruits. The trip to Louisiana was in connection with the inspection of various sites offered for the establishment of the pecan field station in the vicinity of Shreveport. Conditions in Florida have been favorable for the production of citrus and the growing of winter vegetables. In general, previous inspection trips have been made following a freeze or other untoward condition obtaining in Florida; but the season of 1928-1929 was practically free from killing frosts and the State presented a picture quite different from that observed on previous trips.

Spring work at the Field Station, Aroostook Farm, Presque Isle, Maine, will begin about April 1. P. M. LOMBARD left Washington for this station March 28, and C. F. CLARK on March 31. Greenhouse work will be started at once and considerable stock of seedling potatoes will be shipped to cooperatives in several States for testing.

The forwarding of distributions of vines and cuttings pertinent to American euvitis from the Departmental Varietal Collection Vineyard on the Arlington Farm, Rosslyn, Virginia, is about completed, reports GEORGE C. HUSMANN.

FRED L. HUSMANN, in charge of Departmental experiment vineyards in California, reports replantings and additional plantings of grape varieties in them completed. The 1929 grape nursery on the Departmental Experimental Vineyard, Oakville, California, pertinent to researches in Vinifera regions has been planted

The raisin exhibit staged in Room 404 at 220 Fourteenth Street, SW., March 14-16, of sixteen dual-purpose grapes of exceptionally high quality attracted and interested many visitors.

PATHOLOGICAL LABORATORY

LUCIA McCOLLOCH is now associated with FREEMAN WEISS in the study of the diseases of ornamental plants.

A joint paper entitled "The Problem of Dilution in Colorimetric H-ion Measurements," by EDNA H. FAWCETT of the Pathological Laboratory, and S. F. ACREE of the Bureau of Standards, appeared in the March issue of the Journal of Bacteriology. This is the first of a series of articles in preparation by the authors on indicator-buffer problems involving a study of the effect of carbondioxide and of other impurities in distilled water on colorimetric p^H readings, and of the salt errors of the indicators by means of their improved technic. This work will not only be of assistance to biologists but has a broad application to the industries.

PLANT PHYSIOLOGY

FRANK L. GOLL, who is now in Seville, Spain, representing the United States Department of Agriculture at the Ibero-American Exposition, reports that the opening date of the Exposition has been postponed from March 15 to May 15 because of the recent death of the Queen Mother of Spain.

KLARE S. MARKLEY was elected to membership in the Johns Hopkins Chapter of the Society of the Sigma Xi recently. Mr. MARKLEY has just completed his work in organic chemistry and will have the doctorate conferred this coming June.

VEGETABLE AND ORNAMENTAL DISEASES

PHILIP BRIERLEY has recently returned to headquarters at Corvallis, Oregon, from a trip to California in connection with work on diseases of ornamental bulbous plants. He visited bulb fields in the vicinity of San Diego, Los Angeles, Santa Cruz, and San Francisco. Bulb diseases, particularly the mosaic diseases of narcissus and iris, present important commercial problems throughout the regions covered. Growers and county and State officials showed keen interest in the disease work in progress at Corvallis. Mr. Brierley addressed groups of bulb growers at Anaheim, California, and Grants Pass, Oregon, on the problems under study in cooperation with the Oregon Agricultural Experiment Station.

E. A. HELGESON, who has been employed as an agent at Madison, Wisconsin, assisting A. C. FOSTER in the investigation of celery and lettuce diseases, resigned on March 9, in order to take up employment as an assistant in the Department of Genetics in that institution.

REINER BONDE, assistant pathologist of the Maine Agricultural Experiment Station, has been employed for a short time for the purpose of undertaking a

field investigation of the seed-piece injury of potatoes caused by attacks of the seed corn maggot, which is the cause of serious losses of potatoes in South Carolina. Mr. BONDE completed his investigations on March 31.

E. S. SCHULTZ spent March 12 in Washington conferring with Bureau officials regarding his work on potato diseases, returning to Yonkers, N. Y., his temporary station. In company with WALTER P. RALEIGH he will inaugurate the season's field experiments on Long Island early in April; and shortly thereafter they will proceed to their permanent station at Presque Isle, Maine, where they will be located throughout the summer.

F. J. PRITCHARD left Washington on March 21 for a two weeks' trip to Florida, to inspect breeding experiments for resistance to nailhead and other tomato diseases being conducted in the vicinity of Homestead, Florida, by W. S. PORTE.

F. J. PRITCHARD prepared a radio talk on "The Control of Tomato Wilt" for the Department of Agriculture noon-hour network broadcast through Station WRC and a network of 16 national broadcasting stations on Friday, March 8. Due to the illness of Mr. PRITCHARD the talk was presented before the microphone by W. W. GILBERT.

W. W. GILBERT is scheduled to appear before the microphone in the noon-hour network program of the Department on Monday, April 22. The subject of his radio talk is "Disease Prevention in the Vegetable Garden."

T. C. JOHNSON, Director of the Virginia Agricultural Experiment Station; F. P. McWHORTER, Plant Pathologist of the Virginia Truck Experiment Station; Dr. L. M. MASSEY, Head of the Department of Plant Pathology at Cornell University; and F. E. MILLER, Horticulturist of the North Carolina Agricultural Experiment Station, conferred on March 15 with E. C. AUCHTER and FREEMAN WEISS relative to cooperative studies of the diseases of ornamental bulb plants in their respective States.

On March 20, Mr. ERICKSON, representing the H. J. Heinz Pickle Company, of Pittsburgh, conferred with W. W. GILBERT and several other members of the office relative to possible locations in the southern States for the growing of cucumbers for pickling. Mr. ERICKSON is making a survey trip for the purpose of studying the situation and investigating the condition of companies now operating salting stations in various southern States.

The American Railway Express is still showing great interest in the bean disease project, and especially those phases which pertain to the diseases occurring in transit. Messrs. G. SADLER and G. M. DALLAS, of that company, met in conference with L. L. HARTER on March 14 and discussed various phases of the transportation disease problem.

THE OFFICE OF HORTICULTURAL CROPS AND DISEASES

S E M I - M O N T H L Y N E W S - L E T T E R

The Official Organ of the Office of Horticultural Crops and Diseases, Bureau of Plant Industry, United States Department of Agriculture.

W. A. Whitney, Editor

All material contained herein is confidential and is not for publication without the approval of the Office of Horticultural Crops and Diseases.

Volume One Washington, D. C., April 15, 1929 Number Four

OFFICE REPRESENTED AT STRAWBERRY FIELD DAY

At the annual Strawberry Day of the Coastal Plain Experiment Station, Willard, North Carolina, on April 4, George M. Darrow and C. O. Bratley spoke on some phases of their investigational work with this crop. Doctor Darrow discussed his work in breeding of new varieties of strawberries and Mr. Bratley on rots in transit and on the market. For furthering the doctrine of disease prevention in shipped fruit, the management of the local theatre cooperated and showed the Department's film "Why Strawberries Grow Whiskers." The field day was attended by about 75 people, who showed a great deal of interest. On the program also was W. A. Thomas, of the Bureau of Entomology, who is cooperating in strawberry work in and around Chadbourn, North Carolina. Mr. Thomas discussed his investigations of the strawberry weevil.

MANUSCRIPTS APPROVED FOR PUBLICATION

The following manuscript has been approved for publication:

11. "Masking of sweet potato mosaic." By L. L. Harter, Senior Pathologist, and W. A. Whitney, Junior Pathologist. For publication in Phytopathology.

CHANGES IN PERSONNEL

Mrs. L. M. David, Clerk-Stenographer in Fruit Diseases, has been transferred to the Division of Purchase, Sales, and Traffic, Office of the Secretary, effective April 1, 1929.

Mr. W. W. Tracy, Jr., Associate Agronomist, formerly of the Office of Sugar Plant Investigations, was transferred to this office on April 1. He will be located with permanent headquarters at Twin Falls, Idaho, and will conduct there a series of tests of the comparative resistance of different varieties of vegetables to the sugar beet curly top.

Mr. M. F. McIntyre, of Presque Isle, Maine, has been appointed as an agent for temporary service, assisting Dr. E. S. Schultz, Pathologist, in the investigating of potato diseases at Presque Isle, Maine.

R. F. Wilbur has been appointed as agent for a temporary period to assist Prof. M. B. McKay, agent, in conducting a study of symptoms of the curly top disease on different crops under field conditions, and to investigate the possibilities of field control of the disease on certain special crops. Mr. Wilbur's work will be carried on very largely at Hermiston, Oregon, where field experiments will be conducted.

Mr. F. L. Wellman, who has been employed as agent at Madison, Wisconsin, assisting Dr. J. C. Walker, Senior Pathologist, in the investigation of cabbage and onion diseases, has resigned effective March 31, for the purpose of accepting employment with the United Fruit Company, in the line of plant pathology. His new address after May 22 will be care of the Agricultural Department, Tela Railroad Company, Tela, Honduras. Mr. Wellman has our best wishes for success in is new venture.

ADMINISTRATIVE DECISIONS AND NOTES

(Under this heading, from time to time, will be carried digests of decisions of the Comptroller-General and others which have a direct bearing on the activities of the office. Copies of the full decisions are on file and may be procured for the asking. --Ed.)

USE TRANSPORTATION REQUESTS FOR FARES $1.00 OR MORE. -- Your attention is called to the following memorandum from W. W. Stockberger, under the date of March 25, 1929, to Chiefs of Bureaus and Offices:

> "The General Accounting Office has drawn the attention of the Department to the growing frequency with which there are appearing in the personal expense accounts of our employees items for cash payment of transportation in excess of $1.00 without explanation of any kind of the failure to use transportation request.
>
> "Par. 20 of the Standardized Government Travel Regulations requires use of the requests 'when practicable, to obtain all official transportation where the amount involved is $1.00 or more.'

The phrase, 'when practicable,' is construed as calling for an explanation on the voucher of the circumstances which precluded use of the request. Requests are to be used not for rail and steamer travel alone, but for motor-bus transportation also where the line is operated as a public transportation facility 'commonly recognized as such.'

"The Standardized Travel Regulations are established by direction of the President as the rule of practice in Government travel and vouchering, and their provisions should be observed. Bureaus are requested to take the necessary steps for correcting tendencies on the part of employees unnecessarily to substitute cash payment for transportation requests and to omit explanation where cash payment can not be avoided."

P E R S O N N E L N O T E S

FRUIT DISEASES

After a few days in the strawberry section of North Carolina, C. O. BRATLEY goes to Alabama for the purpose of studying the condition of the strawberries there with special reference to the way in which they survived the recent floods. It will be remembered that Castleberry, the chief strawberry shipping point in Alabama, was reported at one time to be under 20 feet of water. At Flomaton, 35 miles south of Castleberry. Mr. BRATLEY hopes to put into commission government truck #2828. This truck, a new Ford, has only been driven a little over 1000 miles. It was intended for use in the North Carolina strawberry districts but, in an effort to economize on automobile hire, it was purchased for delivery in Orlando, Florida. NEIL E. STEVENS and C. L. SHEAR used it for work in and around Plant City, Florida, then on a collecting trip through northern and western Florida, and were heading toward Castleberry late in February. There had been heavy rains and the rivers were approaching the flood stage. At Flomaton, finding the roads impassable and the railroads already in danger of washouts, they finally decided to leave the car at a garage at Flomaton and waded through some 6 inches of water to the railroad station. Since then no direct report has been had of the truck, but newspaper notices carry the information that Flomaton was at one time under 12 feet of water. Needless to say, Mr. BRATLEY'S report is awaited with much interest.

F. R. FULTON left Washington on April 6 for the Mobile district of Alabama where he will spend about a week investigating citrus diseases. From there he will go to the Orlando Laboratory and spend about two or three weeks in the spring campaign against citrus diseases in Florida, returning to Washington soon after the first of May.

J. J. BOWMAN, who has been at Orlando, Florida, for the past month working on citrus diseases, returned to Washington April 7. He reports discouraging conditions in the citrus district. Many of the standard oranges are still on the trees for want of favorable market, thus overlapping the marketing

season of Valencias which should just be beginning. He also reports a severe drought causing the young fruits to shed. This, combined with the heavy crop of the past season, indicates a short crop of oranges next year.

The following notes from a letter just received from H. F. BAIN give an interesting picture of conditions indoors and out at Wisconsin Rapids, Wisconsin, his "summer" headquarters:

> "Found my office full to the ceiling with furnishings from other offices which are being repaired following the fire, and there is no room to turn around in at present.....Just to celebrate my return the elements put on a demonstration all day Easter of a regular blizzard, the snow and sleet drifting enough to tie up traffic, break down telephone and telegraph lines, etc. Temperature dropped to 21 at the lowest point."

HORTICULTURE

The blossoming and fruit-setting period of fruit trees in the spring is always a critical and important one. Conditions at Washington are very peculiar this year. Up to March 10 the season was unusually late and cold. In fact, the 10th of March at Washington had an official minimum of 15 degrees with a gale of wind which made it one of the ugliest days of the winter. Since that time, hot spells have pushed things up to and beyond the schedule. Peaches began to blossom on March 17, at least two weeks ahead of time. They were nearly in full bloom on March 31, Easter Sunday, and this also applies to the flowering cherries in Potomac Park. The hot spell beginning April 6 took all the petals off and started the apples into bloom. The hot spell of April 6, 7, and 8 is almost, but not quite, unprecedented, the maximum temperature April 7 being 94 degrees. The present outlook is for a very heavy set of peaches, pears and apples and this condition is evidently more or less general over the middle Atlantic States and probably westward to Missouri and Kansas.

F. L. HUSMANN, superintending work in the Department's Experiment Vineyards in California, reports regrafting and grafting of additional grape varieties in them completed, and that in the cooperative grape test plots on the places of Mrs. ADELMA W. FENTON, near Healdsburg, J. A. HILL, near Cloverdale, and OLIVER FOWLER, near Rincoon Valley, all of them in Sonoma County, California, that of bud grafts put in in late July and early August, 1928, an especially large per cent wintered over in good shape so that but little grafting in them this spring will be necessary.

IRVING W. DIX has completed the re-plantings and plantings of additional grape varieties in the Department's varietal collection vineyard on the Arlington Experiment Farm, Rosslyn, Virginia, and in it some all-metal trellises have been erected, the cost of such being on a par with wooden post trellises, their up-keep decidedly cheaper and so durable that no renewal posts will be necessary, reports GEORGE C. HUSMANN.

ELMER SNYDER reports that he had completed the irrigation which had to be given the Department's experiment vineyard near Fresno, California, and that cool weather, especially at night had delayed the starting of vines in it.

C. H. MYERS, of Cornell University, Ithaca, New York, and W. ORMISTON

ROY, of Montreal, Canada, were recent visitors. Mr. ROY is a peony enthusiast of some 25 years' standing and is endeavoring to create a sufficient sentiment among Canadians to insure its adoption as their national flower.

D. N. SHOEMAKER spent March 29 at Toledo, Ohio, in connection with the harvest of the Jerusalem artichoke crop there.

P. M. LOMBARD, arrived in Presque Isle, Maine, to begin spring work about April 1. Less snow than usual was found at this time of the year for this part of Maine. The potato market at Presque Isle is not very active and the price per barrel, bulk, graded stock is 85 cents. There is some demand locally for seed potatoes. On account of bad condition of the roads the farmers are not moving potatoes freely. A considerable quantity of potatoes has been contracted for fall delivery by local dealers with potato growers for from $1.05 to $1.25 per barrel. Good progress has been made with our work on Aroostook Farm. Nearly all of our stock has been treated and that intended for shipment will be put up next week and expressed to the different experiment stations that are cooperating in testing Department seedlings.

On April 2, WALTER M. PEACOCK and T. M. WHITEMAN assisted BAILEY E. BROWN and GEOFFREY HOUGHLAND in planting a cooperative fertilizer experiment at the Arlington Experiment Farm. This year the experiment was planted on both light and heavy soils. The Irish Cobbler variety was used. In July this experiment will be repeated with the exception that the Green Mountain variety will be planted instead of the Irish Cobbler. On the third, fourth and sixth, the other potato experiments were planted by WALTER M. PEACOCK and T. M. WHITEMAN. The soil was in excellent condition for planting. If the present high temperatures continue the potatoes will be coming up in two weeks. Forty hundredths of an inch of rain fell on the evening of the fourth, which prevented planting the next day.

VEGETABLE AND ORNAMENTAL DISEASES

H. G. MacMILLAN, whose headquarters are at Greeley, Colorado, has been authorized to visit Washington for the purpose of conferring with Bureau officials regarding plans of work for the coming season. While in the East he will visit the Boyce-Thompson Institute at Yonkers, New York, and confer with E. S. Schultz, C. R. ORTON, and other employees of the Bureau there. He will return to Greeley about May 1.

LUCIA McCULLOCH has been assigned to assist FREEMAN WEISS in the investigation of bacterial and fungous diseases of ornamental bulbs, particularly gladioli. Incident to this assignment she will leave Washington on or about April 14 for a trip to points in Indiana, Illinois, Ohio, and Michigan for the purpose of making a survey of commercial gladiolus fields and arranging for the conduction of cooperative tests in the working out of practical disease-control measures.

J. C. WALKER has been authorized to visit Washington for the purpose of conferring regarding plans of work for the next fiscal year. While here he will attend the meeting of the National Academy of Science and present a paper on disease resistance in onions.

FREEMAN WEISS left Washington on April 9 for points in Virginia and North

Carolina, to prepare for experimental work on ornamental bulb diseases to be undertaken in those States. He will return to Washington within the next week.

M. B. McKAY, of Corvallis, Oregon, has been authorized to attend the convention of the Northwest Florists Association to be held at Seattle, Washington, on April 14, 15, and 16, and to give two addresses, entitled "Some Early Records on Tulip Mosaic," and "Commercial Importance of Controlling Bulb Diseases."

JAMES G. GODKIN of the Virginia Agricultural Experiment Station was a visitor on March 7 when he discussed with W. W. GILBERT cucumber mosaic eradication work in the Norfolk, Virginia, area.

N. J. GIDDINGS, of the West Virginia Agricultural Experiment Station and F. A. WOLF of Duke University were visitors in the Bureau on March 30.

YOSHIHIKO TOCHINAI, Professor of Plant Pathology at the Hokkaido Imperial University, Sapporo, Japan, called on L. L. HARTER on March 27 and on W. J. ZAUMEYER on April 4.

T. C. JOHNSON of the Virginia Truck Experiment Station at Norfolk, Virginia, conferred with L. L. HARTER on March 28 relative to the diseases of beans and sweet potatoes.

On April 1 W. W. GILBERT visited Harmons, Maryland, to make arrangements for spring plantings of cucurbits.

G. M. DALLAS of the American Railway Express Company conferred with L. L. HARTER on April 1 relative to transit diseases of beans.

C. R. ORTON of the Bayer-Semesan Company conferred with FREEMAN WEISS on April 8.

THE OFFICE OF HORTICULTURAL CROPS AND DISEASES

S E M I - M O N T H L Y N E W S - L E T T E R

The Official Organ of the Office of Horticultural Crops and Diseases, Bureau of Plant Industry, United States Department of Agriculture.

W. A. Whitney, Editor

All material contained herein is confidential and is not for publication without the approval of the Office of Horticultural Crops and Diseases.

Volume One Washington, D. C., May 1, 1929 Number Five

NOTES ON THE FLORIDA BEAN-DISEASE SITUATION

Due to generally favorable climatic conditions for good growth, the bean-disease situation in Florida the past winter and early spring has been in better shape than it has been for several years past, says W. J. Zaumeyer in a report on a trip to that State March 9 to 30. High temperatures with little rain prevailed for the greater part of the season; as a result little infection by parasitic organisms occurred. The usual diseases-bacterial blight, anthracnose, mosaic, powdery mildew, and rootrots--were, however, in evidence but not the cause of any great and extensive loss. The bean leafhopper was causing much injury to late-planted beans.

During the past few years, says Doctor Zaumeyer, the use of manganese as a fertilizer has become widely employed in connection with bean growing. This element was first found to be useful on the muck soil of the Everglades, but further investigation proved it to be of value on the light sandy soils. The rate of application is from 50 to 60 pounds to the acre and where so used striking results were observed. Where manganese was applied the plants are more vigorous, have a darker green color, and are more highly productive than the untreated plants. On the Everglade soil where, under ordinary conditions beans are subject to a high percentage infection by root rotting organisms, the plants appeared to be reasonably free where manganese was used. It is not understood just to what the beneficial results are due, but it is supposed that manganese has some effect on the soil bacteria which in turn make more available the potential plant food of the soil.

Although it was not possible in Florida, in Georgia, on the other hand, Doctor Zaumeyer was able to gather valuable information regarding the value of seed source as a possible means of eradicating certain bean diseases. Anthracnose and blight were quite evident in seed grown in the East, either New York or Michigan. The seed from Colorado, while carrying about 10 per cent blight, had no anthracnose, and the seed from Idaho had neither anthracnose nor blight. These observations, states Doctor Zaumeyer, coincide with field observations made in the West last summer.

BRATLEY DESCRIBES POST-FLOOD CONDITIONS IN ALABAMA

(The following paragraphs are from a letter from C. O. Bratley who, as was stated in the last NEWS-LETTER, has gone to Alabama to investigate the diseases of strawberries in and around Flomaton, one of the Alabamian towns inundated recently-Editor.)

At Flomaton I soon found Bell Brothers' Garage and the Ford truck. The high water had come up to the lower edge of the glass in the back of the top, which meant that everything was covered by the top. Bell told me that the water was up over the engine for about two days. As soon as the water had gone down the car was washed, drained and oiled. It is now in excellent shape. There is very little evidence that anything extraordinary had happened to the car.

Most of the growers have their places on the hills so that most of the berries were never under water. There was so much rain that the fields are badly gullied and some plants are missing. In many fields the water washed away the soil between the rows, leaving the plants on high, dry mounds. The major loss in the fields on the hills was from decay. The berries are badly decayed, sometimes as many as half of the berries on the plant show lesions. The rot has all the symptoms of leather rot.

In many of the crates of berries brought into the loading stations yesterday and the day before, the decay would range from 15 to 25 per cent. It is apparently all the same kind of decay except for an occasional lesion resembling those caused by Rhizoctonia. The high waters washed most of the mulch away so the berries are on the ground. The growers on the hills estimate the damage for the entire crop to be about 25 per cent. That includes the decay too, but I think they put the estimate too low.

Yesterday I had a good chance to see how much damage continued flooding would do. A man (Mr. Mancer) had a young planting about 8 miles east of Castleberry and on the slope of a pond. The pond had no outlet so that when the water rose it didn't run off very fast. He had driven stakes into the ground marking the water at various times so I could get a little data from him. A few of the upper rows of berries were never flooded and are in excellent bearing. The next few rows are almost the same. The water stood over them about two and a half days. The plants below the third day-line look fine but are blooming profusely and have no berries larger than a pea. Attached to the plants are numerous small mummied berries which had been killed by the flood. From the sixth day-line, on down to the fourteenth day-line, the plants become thinner and thinner. Generally speaking, I would say that the plants which were under more than a week were killed. The mother plants having heavy crowns are sprouting very well but the other plants are dead. Half of his field is still under, but there are no live plants within twenty feet of the water.

In the large Aroma field (30 acres) the water was 12 feet deep but drained off rapidly except in the hollows. The grower has blueberries in the field with the strawberries. In the lowest spots, both the blueberries and strawberries are killed. The Aroma crop was cut some, and the initial picking which was done today was thrown away. There was too much decay to cull out. They hope by cleaning the field of all decayed berries now to get clean berries afterwards.

AUGMENTED RADIO PROGRAM INVOLVES WEEKLY HORTICULTURAL BROADCAST

The Radio Service of the Department is planning to continue the Farm Flashes during the summer and calls for a Fruits and Vegetable program every Wednesday. Workers in the Office of Horticultural Crops and Diseases have supplied material for approximately one hundred radio programs during the fall, winter, and spring broadcasting period. This is an opportunity to get timely information before the public. Any such material should be sent to W. R. Beattie, who is preparing and editing the series. The noonhour series of the Montgomery Ward chain of midwestern stations will also be continued through the summer, as will be the Housekeepers' Chats, under the direction of Miss Josephine Hemphill.

PEAR ORCHARD INSPECTION MADE

On April 9, M. B. Waite, E. A. Siegler, and W. R. Beattie, in compliance with a request from the War Department, made a trip to Betterton, Maryland, for the purpose of inspecting the pear orchard owned by Mrs. Evelyn Harris, in connection with a damage case growing out of a grass fire which occurred in the orchard during December, 1925. This was the third inspection of this orchard by Messrs. Siegler and Beattie, but the first for Doctor Waite. The case is extremely interesting, involving as it does the direct loss of trees attributed to fire damage in its relation to other causes. Doctor Waite and Mr. Siegler returned to Washington following the inspection, but Mr. Beattie spent the following day visiting pear orchards in the general territory around Chestertown. About 60 years ago there was considerable interest in this section of the Eastern Shore in the planting of Bartlett pears and a few trees of the original plantings remain. These old trees are for the most part neglected but bear fine crops. On the farm of Capt. E. W. Emory, near Chestertown, there is a 2-acre orchard of Bartlett pear trees which are now about 63 years old and still paying dividends.

GARDEN SPACE AVAILABLE FOR D. C. OFFICE MEMBERS

For a number of years W. R. Beattie has acted as agent in the distribution and allotment of public lands in the District of Columbia for gardening and other agricultural purposes. These allotments are made mainly through regularly organized garden clubs and anyone desiring a plot of ground on which to grow a supply of vegetables for home use should communicate with Mr. Beattie. There is also an opportunity to secure acreage for planting corn, potatoes or otherfarm crops. This land is located mainly on the Anacostia Flats.

WORK WITH SUBTROPICAL FRUITS DISCUSSED AT FLORIDA HORTICULTURAL SOCIETY MEETING

The efforts of the Department of Agriculture in assisting in the betterment of subtropical fruits were discussed before the Florida State Horticultural Society at Clearwater, Florida, on April 9, 10, and 11 by T. R. Robinson, H. E. Stevens, and L. A. Hawkins of this office, and Dr. J. J. Skinner of the Bureau of Chemistry and Soils. Mr. Stevens discussed investigational work on the coloring of citrus fruits; Dr. Skinner told of the work of the Department on soils and fertilizers best suited for the production of fancy fruit; Dr. Hawkins spoke on the ocean transportation of citrus fruit; and Mr. Robinson discussed horticultural nomenclature of citrus fruits. Following the meetings, Dr. Hawkins visited some of the citrus-growing sections in Florida to discuss the storage and handling of citrus.

ONION SMUDGE RESISTANCE TRACED TO DEFINITE ORGANIC COMPOUND SAYS OFFICE AGENT AT NATIONAL ACADEMY MEETING

PROTOCATECHUIC ACID IS ACTIVE PRINCIPLE, SAYS WALKER

For the first time in the study of disease resistance, a single demonstrable chemical compound has been isolated which is responsible for the phenomenon of non-infection, said J. C. Walker reading a paper, "Chemical Aspects of Disease Resistance in the Onion," before the annual meetings of the National Academy of Sciences at Washington on April 23. The paper--authored by J. C. Walker, K. P. Link, and H. R. Angell of the University of Wisconsin--dealt with the isolation and purification of protocatechuic acid, known more specifically as 3, 4-dihydroxy-benzoic acid, $C_7H_6O_4$. Resistance to Colletotrichum circinans, the organism causing smudge in onions, is closely associated with the occurrence of pigments in the bulb scales. This resistance is caused by one or more readily diffusible substances present only in the pigmented scales. Drops of liquid from the scales containing these diffusible substances are toxic to the fungus, preventing normal germination and growth of the spores and mycelium by causing a rupture of the fungous body and the subsequent outflowing of the protoplasm. Invasion by the fungus is, therefore, less common in the pigmented bulbs than in the white ones.

The chemical study of the water soluble substances from pigmented scales has shown that one of the toxic entities is the phenolic acid, commonly known as protocatechuic acid, which has been isolated in a pure crystalline condition from pigmented scales by a procedure that firmly indicates that the acid exists in the free state in the scale cells. The purified protocatechuic acid in dilutions of 1-3000 exhibits the characteristic toxic effects on the fungus that had previously been ascribed to the crude water extracts attainable directly from the pigmented scales. Protocatechuic acid appears to be one of the chief constituents responsible for the marked resistance exhibited by the pigmented onion to the smudge disease.

The yellow pigment of onion scales is quercetin, in whose composition are the radicals of oxalic acid, phloroglucinol, and protocatechuic acid. This

pigment, however, is very insoluble in water and under the methods employed, it is certain that the protocatechuic acid did not come from the quercetin molecule. This being the case, it is the third time that protocatechuic acid has been reported as occurring free in plant tissues, although it is a constituent of many aromatic compounds such as the catechol tannins, numerous resins and wood gums, in lignified wood, and is a constituent of various flavone and anthocyan pigments.

"It should be pointed out," said Doctor Walker, "that the toxicity of the crude extract is greater than the toxic effects that could be ascribed to the amount of protocatechuic acid that was isolated from a given unit of toxic extract. It is, therefore, possible that other toxic substances are present or that all of the acid was not isolated by the methods employed. The investigations are being extended, therefore, with the purpose of isolating other toxic substances and if possible to increase the yield of protocatechuic acid."

IMPORTANT EDITORIAL ANNOUNCEMENT TO CONTRIBUTORS

The attention of all contributors to the NEWS-LETTER is again called to the deadlines for copy, which are the eighth of the month for material for the issue of the fifteenth and the twenty-third for material for the issue of the first of the month following. The double-spaced, typewritten copy should be in the hands of the editor (Room 220, West Wing) on or before 4:30 p.m. on those dates. Material may--and it would be appreciated if it would--be submitted before the last moment. NO COPY RELATING PURELY TO PERSONNEL ACTIVITIES RECEIVED AFTER THE ABOVE-STATED DEADLINES WILL BE INCLUDED but held for the following issue. Copy, if desired, may be submitted at any time and carry a release date and material so marked will be held in the editorial office and only issued on or after the specified date. In the longer and more general notes, DO NOT FORGET the WHO, WHAT, WHERE, WHEN, WHY, or HOW of the persons, or events, mentioned. --Editor.

RECENT PRESS RELEASES ON HORTICULTURAL SUBJECTS

Supplied through the courtesy of the
Press Service, C. E. Capen, Chief

NEW MOTION PICTURE ON PLANT IMMIGRANTS. All the world's a stage in "Naturalized Plant Immigrants," a new three-reel picture just released by the Office of Motion Pictures. From the windswept plains of Manchuria to the reeking jungles of the tropics one is taken with the Department's plant explorers on a search for plants of potential economic value in the United States. The film then follows foreign plant material shipped in by these explorers, through a rigid quarantine and on to plant introduction gardens, where it is propagated, and from which distribution is made to commercial growers. One then sees crops from these naturalized plants making productive millions of acres throughout the country.

The Washington Navel orange, oriental persimmon, avocado, date, jujube, Barouni olive and the pistache are some of the introduced fruits and nuts now flourishing under the Stars and Stripes, the pictures show.

Great areas of Durum wheat, which came from Russia, are shown, as are also interesting harvesting scenes on a 5,000 acre tract of oriental rice. Sorghums and Sudan grass, importations from Africa, are revealed in their new habitat, and also the soy bean, from the Orient, and varieties of cotton from Mexico.

"Year after year," to quote the final subtitle of the picture, "the search for new plant material goes on, and so are obtained new crops, new foods, new ornamentals, and new raw materials for American farms, markets, arts and industries."

ORCHARD RECORDS AID IN CITRUS IMPROVEMENT. Many citrus producers in California are now keeping records of the production of each tree in their orchards, a practice introduced in 1909 by A. D. Shamel. These individual tree records enable the growers to locate good orange, lemon, and grapefruit trees from which to take bud wood for top working poor trees. They also indicate the trees that need individual care, and furnish reliable data on which to base conclusions concerning the results of orchard practices.

The results obtained in bud-selection experiments during the last 18 years indicate that by top-working the inferior trees with buds from trees that have consistently produced a good yield and quality of fruit, the inferior or "drone" trees of such varieties as Washington Navel and Valencia oranges can be made productive and profitable.

WILD STRAWBERRIES TO FURNISH NEW "BLOOD" IN BREEDING WORK. All the cultivated strawberries in the United States and most of those of the world are descendants of two wild American strawberries, one a native of the Pacific Coast and the other a native of eastern United States. There are, however, many other wild strawberries that did not take part in developing our present kinds. In the untried wild ones may lurk some valuable trait that can be bred into our domestic varieties which may make them even more desirable than they now are. Plant breeders are turning to wild species for improving the strawberry, especially to develop new types especially adapted to such specific purposes as canning, preserving, and candy making. George M. Darrow, in charge of the Depart-

ment's breeding work with this fruit, has already achieved some success in this field. From the thousands of crosses made, he has selected four promising varieties especially suited for preserving. They are known only by number as yet and will need to be tested for adaptation before they can be recommended for planting. The breeding of preserving varieties is only begun, says Doctor Darrow, and every region will need its own particular variety. The technique of breeding is relatively simple, he says, but the important and difficult part is in making the selections.

ADMINISTRATIVE DECISIONS AND NOTES

(Under this heading, from time to time, will be carried digests of decisions of the Comptroller-General and others which have a direct bearing on the activities of the office. Copies of the full decisions are on file and may be procured for the asking. --Editor.)

GOVERNMENT BILLS-OF-LADING TO BE USED FOR EXPRESS SHIPMENTS. --The Comptroller General has recently ruled that express charges are subject to land-grant deductions when transportation is over land-grant railroads. In view of this ruling it becomes essential to use Government bills-of-lading for all express shipments between points in the field, in order that when the express company's bill for the charges is sent to the Department proper land-grant deduction may be made. You are accordingly advised not to pay express charges in cash hereafter. All authorizations issued in the future will contain a clause prohibiting the incurring of express as well as freight charges. The above is not intended to apply to shipments sent by express to the Department in Washington, which should be sent charges collect as heretofore.

PURCHASE OF GASOLINE FROM VENDORS WHO ARE NOT PAYERS OF STATE TAX. (P.B.A. Circ. No. 119). --Attention is particularly invited to the Comptroller General's decision that gasoline be preferentially bought from payers of the State tax who as such are precluded from collecting the tax from the Government, unless other dealers will place themselves on a parity by reducing their market price in the amount of the tax. This is a plan which will save Federal funds, and should be adopted where practicable. The Supreme Court's decision establishes the rule that the Government can not claim exemption from the State tax on gasoline procured from another than a vendor legally chargeable with the payment of the tax. That is to say, no claim for remittance of tax lies against a retailer not liable to the State for the tax but to whom it has been "passed on," and who in turn includes it in the price to the Government. Therefore the decisions cited in P. B. A. Circular No. 104 are modified to the extent that contracts for gasoline at prices which may be affected by a State tax are no longer interdicted, provided that they are not made with a dealer legally liable for the payment of such State tax. On vouchers for the non-contract purchases described in P. B. A. Circular No. 104, there should hereafter be a specific indication by the dealer WHETHER HE IS OR IS NOT A PAYER OF STATE TAX on the gasoline, and PURCHASING OFFICER SHOULD MAKE SURE THAT THIS INFORMATION IS NOT OMITTED. This circular involves no change in the present practice of securing duplicate sub-vouchers (if cash is paid) or duplicate voucher Form 1034 (where payment is to be made from Washington) for all purchases where the tax is included in the price, whether

the dealer pays the gasoline tax directly to the State or whether the wholesaler pays it in the form of increased price.

COUPON BOOKS FOR THE PROCUREMENT OF GASOLINE AND OIL (A-25361. 8 Comp.Gen. 454) -- The purchase on behalf of the Government of coupon books to be used in the procurement of gasoline and oil incident to the operation of an automobile under Government control is not authorized, as such purchase involves the payment for supplies in advance of delivery in contravention of section 3648, Revised Statutes. Reimbursement may not be made of the value of a coupon book for the procurement of gasoline and oil alleged to have been used by an employee traveling under orders, in the absence of satisfactory evidence as to the time, place, quantity, or price of the gasoline and oil that were furnished in exchange for the coupons detached from the book, and that the gasoline and oil were used on the official travel.

CONTRACTS--MISTAKE IN BID (A-25183. 8 Comp. Gen. 397) -- Where a bid to furnish articles or supplies to the Government was so low that the contracting officer believed a mistake had been made but accepted the bid, and, upon being notified of the acceptance, the bidder alleges a mistake in submission of its bid, and thereafter satisfactorily discloses the facts of the mistake but is directed to furnish the articles or supplies, and does so furnish them, the payment is authorized of the actual cost to the contractor, the said amount being less than the lowest correct bid received. Where a contracting officer, at the time for acceptance of bid, has reason to think and does think that the lowest bid was the result of a mistake on the part of the bidder, he should, before awarding the contract, if the needs of the Government will permit of the delay incident thereto, ask the bidder to verify its bid, and, if the bidder then claims error, submit the facts with reference to the error to the Comptroller General for determination whether the erroneous bid may be withdrawn. If the Government's needs will not permit of the delay incident to such procedure the bid should be accepted and the bidder instructed to perform leaving the matter of price to be determined subsequently by the Comptroller General.

CLASSIFICATION OF CIVILIAN EMPLOYEES--REALLOCATION OF POSITIONS (A-25588. 8 Comp. Gen. 441) -- If the administrative office finally approves or acquiesces in the action of the Personnel Classification Board in reallocating a position, the salary rate of the employee is for determination in the grade in which the position has been finally allocated. 7 Comp. Gen. 820, 825 distinguished. Where there is a difference of opinion as to the duties and responsibilities of a position between the employee on the one hand, and the administrative office together with the Personnel Classification Board on the other, the final determination by the latter must control in fixing the salary grade of the position.

CLASSIFICATION OF CIVILIAN EMPLOYEES--TRANSFER TO A NEW POSITION FROM A HIGHER GRADE (A-25751. 8 Comp. Gen. 400) -- When a new position is created by an administrative office and finally allocated as provided by law the administrative office may transfer to the new position an employee from a higher grade and pay the maximum salary rate in the lower grade if there is no salary rate in the lower grade to which transferred equal to or greater than the salary rate being received in the higher grade at the time of such transfer.

CONTRACTS--ACTUAL DAMAGES--DELAYS IN COMPLETION (A-25865. 8 Comp. Gen. 455) --Where no specific provision is made in a contract for either liquidated or actual damages, the contractor is, upon failure to complete the contract

within the time specified therein for completion, chargeable with all expenses caused the Government by reason of delays in completion for which no extension of time is provided, as actual damages to the Government on account of such delays.

P E R S O N N E L N O T E S

CROP PHYSIOLOGY

ROY W. NIXON reached New York City on April 6 after spending eight months in the date regions of the 'Iraq and Persia. During April he remained in Washington assisting FENNER S. STICKNEY of the Bureau of Entomology in making ready the apparatus for "cooking" the date offshoots secured in the 'Iraq and which are to be sent to Texas for cooperative testing. Mr. NIXON prepared his report and shaped up his notes and specimens before returning to his permanent headquarters at the United States Experiment Date Garden, Indio, California. Many very important data on date varieties likely to be of commercial value in this country were secured in the 'Iraq.

T. RALPH ROBINSON left Washington March 31 for a trip of inspection through the Gulf States and Florida in connection with the work on breeding and testing citrus fruit and the testing of various wild relatives of citrus. On the first part of the trip, Mr. ROBINSON was accompanied by E. C. AUCHTER.

WALTER T. SWINGLE has recently been elected correspondent of the Academy of Natural Sciences of Philadelphia. He is already a foreign correspondent of the Academie d'Agriculture de Paris. Dr. SWINGLE left for Indio, California, about April 17 to inspect the work at the United States Experiment Date Garden and to deliver before the Sixth Annual Date Growers' Institute at Indio a paper on the methods of pruning and pollinating date palms in Morocco and Algeria.

FRUIT DISEASES

MARGUERITE WILCOX has returned to Washington after three months' work at Fort Valley, Georgia, in connection with the phony disease of peaches.

R. B. WILCOX reports from Toms River, New Jersey, that spraying operations on blueberries which were due soon after the middle of April were very much delayed by high winds. A four-days' storm lasted from March 19 to 23 in which the wind velocity reached 78 miles per hour and a great deal of damage was done in the vicinity of Barnegat Bay. About twenty cottages were smashed or washed out to sea, a large hotel was destroyed and another, five stories high, had its seaward end washed away. At a few points the seas swept between the dunes and washed wreckage across the "island" into Barnegat Bay.

H. R. FULTON has been in Alabama and Louisiana for the past two weeks on citrus disease work and has just gone to Orlando, Florida, where he expected to remain two weeks. However, this was planned before the Mediterranean Fruit Fly

situation developed.

C. P. HARLEY, of the Wenatchee, Washington, laboratory is now in Washington, D. C., where he will spend several weeks working on the relation of the carbon dioxide content of storage air to the internal atmosphere of fruit.

A cooperative agreement with the Louisiana Agricultural Experiment Station covering work on the dwarf and related diseases of strawberries has just been approved. Under this, A. G. PLAKIDAS, who, while still a graduate student at the University of California, worked out the insect-borne disease of strawberries known as "yellows," and, more recently, while in Louisiana, has published on the "dwarf" diseases of strawberries, is expected to spend about three months (June, July, and August) in the field laboratory at Falls Church, Virginia. It is hoped that with the assistance of the Plant Disease Survey, specimens of diseased strawberries from various States where "yellows," "dwarf," and "mosaic" have been reported can be assembled here in order that Doctor PLAKIDAS may make a careful comparative study.

HORTICULTURE

E. C. AUCHTER returned to Washington April 21 after a three and a half weeks' trip through Florida and other southern States. In Florida the United States fruit and vegetable disease laboratories were visited at Orlando, Homestead, and Bradenton. Experimental citrus plantings in charge of members of this office were visited at several different points in Florida. Doctor AUCHTER was at Orlando when the Mediterranean fruit fly was discovered and met with the Florida Plant Board at Gainesville on Sunday and Monday, April 14 and 15. Plans for the establishment of the pecan experimental station at Shreveport, Louisiana, were completed during this trip.

MILO N. WOOD completed the work of almond crossing for the season late in March. Approximately ten thousand blossoms were emasculated and pollinated under the almond-breeding project. The work was conducted in several districts of northern California, mainly in the Sacramento Valley.

Although the first nuts resulting from Mr. WOOD'S breeding were planted in 1924, several thousand of the resulting seedlings have been brought into fruit by top-working on trees of mature age. Of these, twenty were this last year selected as being of especial promise, but a committee of experts, including Mr. WOOD, later reduced this number to one.

Two thousand acres of almonds have been planted during the past winter in the Arbuckle district of Colusa County, California. The total area in the State now devoted to almonds amounts to approximately one hundred thousand acres.

Forty acres of filberts have been planted in Shasta County, California, during the past year. This is the largest single area planted to filberts during the season. Present indications point to approximately one hundred acres more in the same district next year.

R. C. WRIGHT and A. G. GALLOWAY returned from the second transportation trip with vegetables from Florida on the S. S. Shawnee of the Clyde Line on April 6. They reported excellent results, the vegetables having carried in

exceedingly good condition.

E. D. MALLISON left Yakima, Washington, April 8 to visit the berry-growing regions of Washington and the Puyallup Valley and arranged for precooling transportation experiments with berries. He proceeded to Roseburg, Oregon, and then to San Francisco and Los Angeles vegetable regions in connection with shipping of broccoli, cauliflower, and lettuce.

DEAN H. ROSE and M. H. HALLER have gone to Willard, North Carolina, to carry on barreling and freezing experiments with strawberries.

A. G. GALLOWAY and E. D. GORMAN have gone to North Carolina to continue the precooling and transportation work started in that section last season.

C. F. CLARK arrived in Presque Isle, Maine, April 3. He reports having had a very pleasant and profitable visit at the Boyce Thompson Institute for Plant Research on April. E. S. SCHULTZ, L. O. KUNKEL, and F. E. DENNY and several others were interviewed. Doctor DENNY, while not at present conducting any experiments with potatoes, has just finished a manuscript which gives the results of some chemical studies of tubers which had been treated with ethylene chlorhydrin.

W C. EDMUNDSON recently attended a tractor and plow demonstration staged by the Great Western Sugar Company near Greeley, Colorado. Each of the tractors were pulling a two-way gang plow and were plowing from four to ten acres a day. Mr. EDMUNDSON also reports that the weather has been cold and a late spring is predicted. The growers are just beginning to plant their early crop of potatoes (April 15) in the Gilcrest section of Colorado.

From P. M. LOMBARD, located at Presque Isle, Maine, come these observations, under the date of April 19, on the potato situation there. "The weather for the past week has been very changeable. For the most part the nights have been quite cold with several small snow storms. From all indications we shall not have a very early spring. The work at Aroostook Farm has progressed very satisfactorily. We have shipped out all the seedlings to be tested this year and have selected stock for our various test plots. This week we began cutting seed with a sterilized knife, putting the several pieces from each tuber in a paper bag. The market is some stronger today with Irish Cobbler (for speculation) bringing a dollar a barrel. Green Mountains are worth $1.25 a barrel. The American Fruit Growers and the Atlantic Commission Company are contracting potatoes, furnishing a ton of 5-8-7 for from 32 to 36 barrels of table stock or 18 barrels certified seed for a ton. Considerable fertilizer is being put out through these two organizations. The fertilizer companies are letting out very little fertilizer on time.

FRED L. HUSMANN, superintending work in the Department's experiment vineyards in California, reports plantings completed on April 11, of bench grafts, cuttings, etc., heretofore prepared for the Department's grape nurseries at the experiment vineyard, Oakville, California. He also reports damaging frosts having occurred April 6, 7, and 10 and that additional frosts can be expected. The damage done can not be estimated until the young growth reappears on the vines.

GEO. C. HUSMANN reports that LOUIS CORTOPASSI, a valued collaborator, on whose property at Colfax, California, one of the Department's cooperative experi-

ment vineyards is located, died at Sacramento on April 5.

FURMAN LLOYD MULFORD has just returned from a ten days' trip taken for the purpose of assisting the Vermont Extension Service to introduce home ground improvement work to the women's demonstration clubs in six of the fourteen counties in that State. Meetings were held in two widely separated places in Chittenden and Windsor Counties, and two meetings at St. Johnsbury, Caledonia County--one with county leaders and the other with the members of the women's club of St. Johnsbury. At the former meeting one woman drove a horse six miles through roads that were so deep with mud that they were impassable for automobiles. One meeting was held in each of three other counties: Washington, Lamoille, and Rutland. In spite of the bad roads, there was a fair attendance at each meeting. In Rutland County ten of the fourteen communities in which there are home demonstration clubs, were represented. Snow fell every day except the first and last of the trip. On the twelfth there was a fall of 18 inches at many of the points visited.

Evidence of renewed interest in chestnut culture in this country and an illustration of an interesting shift from one locality to another by a particular crop, comes from California, where, in Shasta County, 40 acres are said to have been recently planted. Hitherto the chestnut has not been favorably regarded on the western coast, chiefly because of two important facts; first, most of the chestnuts planted in that part of the country have been of the large Japanese kinds, which are usually made palatable only by cooking; and, second, when trees of the American sweet chestnut have been planted in that part of the country, they have usually set singly, or at least in too few numbers to provide the all important pollen from other varieties.

Chestnut blight and chestnut weevils have practically driven the chestnut orchard industry from the eastern districts, where the species was indigenous. If these enemies can be kept from the Pacific coast, it is quite possible that a highly important domestic production of varieties which can not now be grown in the East will be restored to the country.

As a result of last year's nut crossing in the East and South, 3824 filberts and 3580 pecans have been planted this spring. The chief object in view with filbert breeding is that of developing varieties hardy enough to produce crops in the eastern States, and of good enough quality to successfully compete with the imported product from the Mediterranean basin, and the choice varieties of the Pacific Northwest. The crosses are made almost wholly by using pollen from the European varieties upon the Rush variety of the eastern American hazel. (Reciprocally this cross can not be made.). The results sought in pecan breeding are several. Originally the chief objects were to combine the fruitfulness of one variety with the earliness or high quality of another, or the oblong form of a light bearer with the heavy bearing habits of a round nut. Recently, however, the general susceptibility on the part of many of the choicest varieties to fungous troubles, particularly pecan scab, has made it necessary to lay special emphasis upon the matter of disease resistance.

In the last number of the NEWS-LETTER reference was made to the early blossoming of apple trees in the vicinity of Washington due to the abnormally hot spell which began April 6 and continued through April 9, a rather decided drop in the temperature coming near the close of the last day. Many apple trees that were in the cluster-bud stage on Saturday were practically in full

bloom on Monday. Pollination in apple breeding with most varieties could not be done after April 8 or 9 as the blossoms were then too far advanced. In 1928 apple pollination was done at Arlington Farm about May 5; in 1927, on April 20 and 21; in 1926, on May 3. These dates, however, do not tell the whole story as to the advance of the season. Since April 9, there has been but little unseasonably warm weather, although no exact comparison is made in the present connection with the "theoretical average" which rarely, if ever, actually occurs in Nature. As a result, the blossoming of the later-blooming varieties of apples has been a long drawn-out phenological feature. The development of vegetation in the spring tells the story of the seasonal advance in terms more readily comprehended than does a series of thermometer readings.

PLANT PHYSIOLOGY

FRANK P. GOLL, the Department's representative at the Ibero-American Exposition at Seville, Spain, reports that the opening date of the exposition has been set for May 7. Mr. GOLL states that all exhibits are in readiness and that the exposition will be very interesting. Recently the American Ambassador to Spain, the Honorable ROGERS CLAIBORNE, visited the exposition buildings and later was a guest at a reception to which all American representatives at the exposition were invited.

On April 18, K. S. MARKLEY gave the following paper by K. S. MARKLEY and CHARLES L. SANDO before the local section of the American Chemical Society held at George Washington University: "Progressive Changes in the Ether-Soluble Apple Surface Constituents during Maturation and Storage and the Possible Relation of the Constituents to Storage Scald." Dr. SANDO gave the following paper at the same meeting: "Further Studies on Malol from Apple Peels, Prunol from Wild Cherry Leaves, and Ursen from Bearberry Leaves."

PATHOLOGICAL LABORATORY

A talk under the title of "The Use of Superpure Water and Adjusted Indicators for Accurate Measurement of H-ion Concentration and of Salt and Protein Errors," summarizing the cooperative work being done by EDNA H. FAWCETT and S. F. ACREE, of the Bureau of Standards, will be given by Doctor ACREE at the Mellon Institute in Pittsburg on May 3. Five brief papers treating of different phases of the work will also be read before the Chemical Society in Cleveland on May 2 and 3.

VEGETABLE AND ORNAMENTAL DISEASES

E. S. SCHULTZ and WALTER P. RALEIGH left Yonkers, New York, on April 28 for Presque Isle, Maine, their permanent field station, where they will be engaged in their summer's field experiments on potato diseases. Their address for the summer will be Presque Isle, Maine.

On April 25 W. S. PORTE left Homestead, Florida, where he has been located for the last six months investigating the nailhead rust of tomatoes. Mr. PORTE came to Washington, where he will be located until the early part of next November.

"Disease Prevention in the Vegetable Garden" was the title of a talk broadcast by WRC and affiliated stations of the National Broadcasting Company in cooperation with the Montgomery-Ward chain of midwestern stations by W. W. GILBERT on April 22.

F. J. PRITCHARD returned from Florida on April 13. Owing to unfavorable weather conditions and low prices, the tomato season came to an end sooner than usual. The crop was light on the East Coast but good in southwest Florida, especially in Manatee County. Protracted fogs, heavy dews, and high temperatures resulted in the presence of more blight than usual, but this gave opportunity to select for increased blight resistance in the experimental plots. On account of drought the past three years in southeast Florida, the placing of locks in the canals to hold the water table at a desirable level is being considered.

In company of C. R. ORTON, of the Bayer-Semesan Company, FREEMAN WEISS visited the bulb farm of the F. Rynveld Company, Yaphank, Long Island, New York, on April 17 and 18 to take notes on the flowering of narcissus bulbs which were given the hot-water treatment plus a fungicide last fall. Only the earliest varieties were in flower. Among the treatments several were superior to the untreated lots, the bulbs comparing favorably in rate of development with those receiving the plain hot-water treatment. At Bellport an establishment was visited where the entire crop of callas in several greenhouses was lost because of a root disease.

Preliminary arrangements for the summer's work on the control of cucumber mosaic by the eradication of wild host plants in the region around Norfolk, Virginia, were made by W. W. GILBERT on a trip to that place April 11 to 13. On April 17 Mr. GILBERT also visited Glenburnie, Maryland, to lay plans for planting tests with cucumbers.

J. C. WALKER arrived in Washington April 22 to confer with office officials and to deliver a paper before the National Academy of Sciences meetings on April 23. An account of Doctor WALKER'S paper is given elsewhere in this issue.

After conferring with members of the staff of the Boyce-Thompson Institute for Plant Research, Yonkers, New York, H. G. MacMILLAN arrived in Washington on April 22, where he will spend about a week conferring with Bureau officials.

L. R. JONES, of the University of Wisconsin, conferred with various office people on sundry problems during his recent visit to Washington for the meetings of the National Academy of Sciences.

THE OFFICE OF HORTICULTURAL CROPS AND DISEASES

S E M I - M O N T H L Y N E W S - L E T T E R

The Official Organ of the Office of Horticultural Crops and Diseases, Bureau of Plant Industry, United States Department of Agriculture.

W. A. Whitney, Editor

All material contained herein is confidential and is not for publication without the approval of the Office of Horticultural Crops and Diseases.

Volume One Washington, D. C., May 15, 1929 Number Six

MYCOLOGIST EXPOUNDS BASIC PRINCIPLES OF TAXONOMY OF PYTHIUM AND SOME PATHOLOGICALLY-RELATED GENERA

DRECHSLER GIVES PRELIMINARY ACCOUNT OF MONOGRAPHIC WORK AT CLOSING SESSION OF BOTANICAL SOCIETY OF WASHINGTON

At the closing meeting of the Botanical Society of Washington on May 7, Charles Drechsler briefly outlined the various types occurring in the genus Pythium and some genera closely related in a pathological way to it. This was the first resume which Doctor Drechsler has presented relative to the important monographic work on which he has been working for the past several years. While the talk did not include all the organisms studied in the course of the investigations, many were briefly described and illustrated with lantern slides. As a result of inadequate description, said Doctor Drechsler, Pythium debaryanum and P. ultimum have often been misapplied, the former binomial being almost universally applied to all damping-off organisms, whereas the latter has been found to be present in a large majority of the cases studied.

Writings on the genus Pythium stated Doctor Drechsler, have come in approximately equal quantity from students of plant diseases, on the one hand, and from students of aquatic fungi, on the other. The working methods of the former have shown little utility in revealing the zoosporangial structure and the more characteristic relationships in the sea apparatus, while those of the latter have as their chief disadvantage the difficulty of establishing trustworthy specific distinctions. As a subject of pedagogical interest, the genus has suffered much from inept presentation.

Various types of zoosporangia are illustrated in representative species. The undifferentiated filamentous type, though occurring among terrestrial parasites, are more frequent among aquatic forms. The lobulate zoosporangia include

many of the forms isolated from economic crop plants; as, for example, P.complens common on decaying roots of peas; P. grammicolum, described from oat roots but especially frequent on sugar cane roots; P. arrhenomanes, destructive to maize roots and remarkable because of its numerous antheridia; P. butleri, which in Maryland this spring caused damping-off of tomato seedlings on a large scale; and the closely related P. aphanidermatum, lately obtained in the United States, also from sugar cane roots. Lobulate zoosporangia are produced also by two forms characterized especially by very intimate wrapping of antheridial branches around the oogonium, one with smooth female organs derived from sugar cane roots, and another with spiny oogonia found as the cause of watermelon blossom-end decay.

Among the species of Pythium with subspherical sporangia, several sections can be recognized. A series in which the antheridial branch often arises from the same hypha that bears the oogonium includes P. debaryanum with almost smooth oogonia; a widely distributed species differing from the latter principally in the female organs bearing regularly several digitate protuberances; P. spinosum, described from Formosa with more than a score of digitations, as well as the spiny type of intramatrical habit so destructive to watermelon fruits in the Middle Atlantic States. Another and similar series typically exhibiting proximate monocling includes the destructive damping-off fungus, P. ultimum ,and certain related forms found to occur in leek roots and bloodroot roots. A third section distinguished by terminally-borne proliferous sporangia, and large clasping antheridia with fertilization tube arising from the navel position, includes forms found parasitic on roots of the bean, the peony, and the touch-me-not. This section is evidently to be identified with the somewhat problematical genus Phythiamorpha, though a transitional condition is represented in P. vexans, and an anomalous fungus with spiny parthenogenetic oogonia obtained from diseased rhubarb buds is left difficult of assignment. A fourth series includes two forms having large oogonia with strongly indurated spines and oblate-ellipsoidal zoosporangia, one isolated from English daisy roots, the other from lettuce roots, both closely related to P. megalacanthum. The latter series, like the aquatic types with filamentous sporangia, suggests the true water molds in certain respects.

RARE FIGURE-GRAINED BLACK WALNUT STOCK FOUND IN KANSAS

Discovery was recently made by an office correspondent of the top of a black walnut tree in southeastern Kansas which had been cut in February and which had a figured grain to "the tip ends" of the branches. The finder wired the office for instructions as to how best to preserve scions until they could be used. Trees of this sort are exceedingly rare and are seldom discovered until after the tree has been cut and the log disposed of. It is probable that in this case the stump was removed with the log, as is now the prevailing custom in harvesting black walnut timber. The office advised that the scions should be used immediately, if possible, and preserved only if absolutely necessary. The suggestion was made that attempts be made to top-work scions from this tree on some other of the same species by one or more of the usual methods of grafting. It was also suggested that attempts be made to induce the root to grow by bringing the larger ends of a few having diameters not larger than one inch to the surface and leaving them exposed.

Two other trees of this character have been called to the attention of the

office during earlier years. In January, 1905, J. F. Spillman, of southwestern Missouri, discovered a tree of this character which had then been cut for one year. The stump was thought to be still green, although it had not grown. Efforts made to stimulate growth from the stump and roots, as well as by grafting, were unsuccessful. The log of this tree had been used partly as a watering trough and partly for fence rails.

In the spring of 1926 scions from such a tree, which had been procured by the American Walnut Manufacturers Association of Chicago were placed in the hands of the Department, by which they were distributed among expert propagators. Reports received some months later were to the effect that in several instances living grafts had resulted.

Walnut trees with figured grain are not necessarily of value as nut producers, but by virtue of the necessity of reproduction by asexual propagation they are called to the attention of this office.

MORE PECULIARITIES IN APPLES DUE TO SEASON ARE NOTED

The peculiarities of the season with respect to their influence on behavior of apple trees, referred to in the last two issues of the NEWS-LETTER, still continue. Certain trees which apparently came into full bloom from April 6 to 8, and then quickly shedding their petals, passed out of bloom, again developed a fairly abundant bloom ten days or two weeks later. Other trees which bloomed early continued to have a succession of blossoms for a period of about three weeks. Such trees bore, at the same time, blossoms and little apples the size of a large pea.

Not infrequently other peculiar phenomena were in evidence. In some cases one might observe in the same cluster a little apple, or two or three of them, which evidently set from early blossoms and also a growth which had the appearance of a short vegetative shoot that developed from a position corresponding to one of the side or outer fruit buds in the cluster, and in turn this vegetative shoot produced several blossoms. It is of course difficult to say just what the morphology of these shoots really was.

It is natural to account for thesepeculiar responses in terms of the unusual weather conditions that have prevailed. But it may be questioned whether the real explanation may not be very much deeper and more fundamental than that. It seems possible or even likely that these responses are in fact an expression of some complex stored-up food relationships and ratios,--which, however, might not have found expression under other conditions of growth as influenced by the weather.

WRIGHT, WISCONSIN BACTERIOLOGIST, DIES SUDDENLY FROM HEART FAILURE

W. H. Wright, who with A. J. Riker and H. E. Sagen at the Christmas meetings of the American Phytopathological Society presented proof of the existance of distinct bacterial groups causing crown gall and hairy root, died suddenly from heart failure at ten o'clock while engaged in his daily work at the University of Wisconsin. William Harmon Wright, the son of John Wynn and Elizabeth (Harmon) Wright, was born in Bartholomew County, Indiana, July 8, 1885. Following an early life on his father's farm, he matriculated and received his degree of Bachelor of Science from Purdue in 1908. In 1909 he received the degree of Master of Science from the University of Wisconsin and in 1924 his doctorate from the same institution. During the scholastic year 1915-1916 he was in attendance at Cornell University. Doctor Wright was the author of many papers on agricultural bacteriology and with E. G. Hastings issued "Laboratory Manual of General Agricultural Bacteriology." Since 1911 he has been associated with the University of Wisconsin, being at the time of his death Associate Professor of Agricultural Bacteriology. During 1918-1919 he conducted a special field survey on potato diseases for the Bureau of Plant Industry and more recently was working under a cooperative agreement with the Office of Mycology and Disease Survey on the crown gall-hairy root problem. Doctor Wright is survived by a wife, Mrs. Edna (Fisher) Wright, and two children, Alice Elizabeth and John Fisher, to whom all of Doctor Wright's friends and associates send their heartfelt sympathies.

CHANGES IN PERSONNEL

Edgar L. Evinger was appointed as Assistant Scientific Aid, effective May 4, to assist Freeman Weiss in the investigation of the diseases of ornamental plants.

Burt Johnson was appointed Agent, effective June 1, to assist A. C. Foster in the investigation of celery, lettuce, and endive diseases at Madison, Wisconsin.

MANUSCRIPTS APPROVED FOR PUBLICATION

The following manuscripts have received approval for publication:

12. "A Cytological Study of Infection Strains of Cabbage Susceptible to and Resistant to Yellows (Fusarium conglutinans)." By Rose Smith, Research Assistant in Plant Pathology, the University of Wisconsin; and J. C. Walker, Agent. For publication in the Journal of Agricultural Research.

13. "Fusarium Resistance in Cabbage: A Study of Factors Influencing Its Expression." By J. C. Walker and Rose Smith. For publication in the Journal of Agricultural Research.

14. "Gladiolus Diseases." By Lucia McCulloch, Associate Pathologist, For publication as an unnumbered mimeographed leaflet.

15. "Studies upon the Clubroot of Crucifers." By F. L. Wellman, Pathologist with the United Fruit Company, formerly Agent. For publication in the Journal of Agricultural Research.

16. "A Chemical Compound Responsible for Disease Resistance in the Onion." By H. R. Angell, Pathologist of the Australian Department of Agriculture, formerly Agent; J. C. Walker, Agent; and K. P. Link, Assistant Professor of Agricultural Chemistry, University of Wisconsin. For publication in the Journal of Agricultural Research.

RECENT PRESS RELEASES ON HORTICULTURAL SUBJECTS

Supplied through the courtesy of the
Press Service, C. E. Capen, Chief

EDITOR'S NOTE. The reader's attention is called to the fact that the Press Service welcomes suggestions of topics for press releases or Clip Sheet articles or for special articles on horticultural subjects that might be given to the public through press associations, syndicates, etc. Such cooperation would greatly help in facilitating the work of getting our information to the public. All articles, of course, are approved by the Chief of Bureau before they are sent out by the Press Service.

ADMINISTRATIVE DECISIONS AND NOTES

(The following paragraphs are based on decisions, general orders, or interpretations of the fiscal regulations of the Department of Agriculture and are inserted for your instruction and guidance. --Editor)

ORDERS FOR PUBLICATIONS CLEARED THROUGH OFFICE OF INFORMATION (Memo. No. 419, Chief of Bureau). --Your attention is called to the following memorandum from the Chief of Bureau under the date of April 29, 1929. Requests for publications should henceforth be made in accordance with these instructions.

> "It has been called to my attention several times of late by the Director of Information, that members of the staff of this Bureau have been sending orders for publications directly to the Superintendent of Documents instead of to the Office of Information.
>
> "Inasmuch as the Office of Information keeps a record of the distribution of our publications it is necessary that all such orders be sent through that office. It is requested, therefore, that all employees of your office be instructed as to the proper procedure in the matter. All orders for publications should be sent to the Office of Information and any such orders for more than twenty-five copies of a publication should be routed through the Office of Publications of this Bureau as set forth in B.P.I.

Memorandum 364.

"Your cooperation in calling this matter to the attention of members of your staff will be very much appreciated."

SUBSISTENCE REIMBURSEMENT FOR TRAVEL BETWEEN 8 A.M. AND 6 P.M. --In view of the fact that subsistence expenses incurred on a trip from headquarters from 8 a.m. to 6 p.m. are not reimbursible, the Comptroller General has ruled that employees traveling by automobile who leave their headquarters before 8 a.m. and return thereto after 6 p.m. must show the official necessity for departure or arrival at this time in connection with their claims for reimbursement for mileage. This explanation should show the distance covered, the time required for the transaction of official business at one or more points visited, with some supporting information as to the volume of work and to the particular occasion for reaching a given destination at a specified hour, or to other features obviously influencing the duration of the trip.

P E R S O N N E L N O T E S

FRUIT DISEASES

IRENE DOBROSKY, of the Boyce Thompson Institute, who has been working on the relation of leafhoppers to the spread of the false blossom disease of cranberries, spent April 24 and 25 at the laboratory at Toms River, New Jersey, collecting insects on the newly drained bogs. Miss DOBROSKY reports that her thesis is now completed and expects to spend more time this summer than formerly on cranberry leafhoppers.

CHARLES BROOKS, C. O. BRATLEY and NEIL E. STEVENS have spent some time this month at the Chadbourn, North Carolina, laboratory in connection with work on diseases of strawberries. Doctor STEVENS reports the worst epidemic of Botrytis on strawberries he has ever seen in the South, by far the worst at Chadbourn during the last four years. This he attributes to unseasonably cool and wet weather. The following table gives the mean maximum and mean minimum temperature for the first week of the strawberry shipping season at Chadbourn for the

1929	67 mean maximum	44 mean minimum
1928	71	49
1927	72	53
1926	81	52

past four years. The carrying qualities of the strawberrieswas very good in 1926 and 1927, poor in 1928, and, as already noted, very bad indeed in 1929.

R. B. WILCOX sends the following report on the Sclerotinia (mummy berry) disease of blueberries, which is very much more severe than usual:

"The temperature has been uniformly cool. Rain has fallen at some time during nearly every 24 hours, or at least every second day. There has been a breeze most of the time, reaching the force of a heavy wind on several occasions. Good weather for infections.

"The blueberry mummies have produced apothecia and, in most cases,

disappeared. The first cases of fungous infection of growing parts was a browning of young foliage shoots, especially near the ground, on watersprouts. These soon produced what was apparently the conidial stage of the Sclerotinia fungus. Nearly all of the blight was found on the Adams, Harding and Dunfee varieties.

"On May 3d there was the most severe and uniform epidemic of twig blight that I ever saw from any cause. On the 4th, a large number of the little brown shoots were producing large numbers of conidia. The Dunfee, Adams and Harding were still much the worst, but Rubel was developing a considerable amount of blight, as was also the Cabot, which previously had been considered immune. Most of the hybrid varieties, however, showed very little of the trouble."

HORTICULTURE

VICTOR R. BOSWELL left Washington on May 7 for the West, where, in the company of H. A. JONES, head of the division of truck crops of the University of California, he will inspect vegetable production, and seed-growing interests. Doctor BOSWELL will return by way of Twin Falls, Idaho, and Greeley, Colorado, at which points active projects of the office are in progress.

F. L. MULFORD discussed the planting of roadside and street trees with the Cabin John (Maryland) Citizens Association. Lantern slides showed the rate of growth of many different kinds in 15 years of both young trees and those partially mature. The suggestion that all important automobile roads should be provided with a foot path both for the protection of the motorist as well as the pedestrian met with a hearty response.

J. H. BEATTIE recently returned from Steenburg, Indiana, where arrangements were perfected for the prosecution of biometrical studies with onions, carrots, and cabbage on peat soil. This work will involve the growing of from one to two acres of each crop under apparently uniform soil and other conditions and the taking of several hundred yield records with each crop to determine the degree of variation in yield on apparently uniform soil and the size of plot necessary to give significant results. Trials with windbreak materials including three varieties of basket willow are in progress in connection with the same work. One variety not previously regarded as promising is now looked upon as very valuable as it comes into leaf about two weeks ahead of the other sorts. This is important, as protection is most needed during the early season when onion and other seeds are being sowed. Mr. BEATTIE also investigated an installation of forced circulation heaters in a greenhouse range in central Ohio. This method of heating greenhouses is attracting considerable attention but it must be considered as in the experimental stage.

In the Department's grape-breeding work in vinifera regions, 280 interesting seedlings have resulted and are flourishing in the experiment vineyard near Fresno, California, and 365 additional seeds were obtained from cross pollinations made in 1928. Some of the objects sought in producing these are to originate earlier-and later-ripening high quality table grapes of handsome colors, good keeping, and shipping values; early and late high quality seedless grapes of handsome colors, good shipping and curing values; dual purpose high quality grapes of handsome colors, good shipping, and storage values; Muscat-flavored

seedless dual purpose high quality grapes of handsome colors and good shipping, curing, and storage value. An interesting item in connection with this work is that so far in all attempts to pollinate seedless varieties with others no seeds resulted, whereas no trouble was encountered in securing seed by crossing varieties having seed with pollen from seedless sorts.

F. L. HUSMAN, in charge of the Department's experiment vineyards in California, reports that cross plowing and cross cultivating has been accomplished and that it is too early to estimate with any degree of accuracy the damage to grape crops in California from the late spring frosts that occurred on April 6, 7, and 10.

An interesting observation regarding the feeding habits of adult chestnut weevils has been recently reported by FRED S. BROOKS of the Bureau of Entomology. It seems that these insects work on the catkins for nectar rather than pollen, as has been previously supposed.

PATHOLOGICAL LABORATORY

FLORENCE HEDGES returned to Washington April 25 after a short trip to the Eastern Shore of Maryland for the purpose of making preliminary arrangements for a study of the bacterial diseases of beans in experimental plots there.

Phytophthora syringae was found fruiting on severely blighted young lilac shoots in the grounds of the Department of Agriculture on May 2 by FLORENCE HEDGES. The diseased shoots were blackened and had the appearance of a severe lilac blight (caused by Bacterium syringae) infection or of pear twigs attacked by fire blight. This is the first time that this disease has been reported in this country, says Miss HEDGES, although it has been known in Europe since 1905. It causes much damage in Holland during springs having abnormal rainfall.

PLANT PHYSIOLOGY

KLARE S. MARKLEY attended the meetings of the American Chemical Society held in Columbus, Ohio, April 29 to May 3 and presented the following papers:

"Progressive Changes in the Ether-Soluble Apple Surface Constituents during Maturation and in Storage and a Possible Relation of the Constituents to Storage Scald." By K. S. MARKLEY and C. E. SANDO, presented before the Division of Agricultural and Food Chemistry.

"The Effect of a Change in Solvent upon the Reaction of Thiocarbanilide and Chloroacetic Acid and Condensation of the Products Formed with Aromatic Aldehydes." By E. EMMET REID and K. S. MARKLEY, presented before the Division of Organic Chemistry.

VEGETABLE AND ORNAMENTAL DISEASES

From May 5 to 7 L. L. HARTER visited points in and about Norfolk, Virginia, in the company of F. C. JOHNSON and F. P. MacWHORTER, of the Virginia Truck Experiment Station, studying the diseases of sweet potatoes and beans there.

Potato diseases in New Mexico, Arizona, California and Nevada will be studied by H. G. MacMILLAN on an extensive trip to these States during May, where he will confer with officials of State Experiment Stations and of the Bureau

of Plant Industry.

W. J. REID, Jr., of the Bureau of Entomology, who is conducting the entomological phases of the studies on seed-corn-maggot injury to potatoes at Charleston, South Carolina, reported on April 25 that a disease was causing serious loss in the commercial potato fields of that section. The specimens which he sent showed that late-blight infection was advanced on the foliage and had begun to show on the tubers. Mr. REID reported some injury in the plots conducted in cooperation with this office and stated on May 3 that from 50 to 75 per cent of the fields in that area were affected.

FREEMAN WEISS returned on May 4 from a trip to Long Island, New York, where he inspected the plantings of ornamental bulbous plants pursuant to pathological work being conducted there. Arrangements were made with the New York State entomologists, Cornell University, the Bureau of Entomology, the Bureau of Plant Industry, and the Long Island Bulb Growers' Association for the immediate conduction of experiments on the control of various insect and fungous troubles of bulbous ornamentals. F. I. McWHORTER, of the Virginia Truck Experiment Station, Norfolk, Virginia, was also authorized by this Bureau to attend the meeting.

En route back to Madison, Wisconsin, from Washington, J. C. WALKER inspected various lots of shipped onions.

G. H. BILLS, of the American Railway Express Company, conferred with L. L. McRTER on April 25 relative to the diseases of beans. H. A. HUNTER, of the University of Maryland, conferred with Doctor McRTER on May 3 regarding cooperative plantings of beans in Maryland.

On April 29 FREEMAN WEISS acted as judge of the annual Woodridge (D. C.) Tulip Show.

THE OFFICE OF HORTICULTURAL CROPS AND DISEASES

S E M I - M O N T H L Y N E W S - L E T T E R

The Official Organ of the Office of Horticultural Crops and Diseases, Bureau of Plant Industry, United States Department of Agriculture.

W. A. Whitney, Editor

All material contained herein is confidential and is not for publication without the approval of the Office of Horticultural Crops and Diseases.

Volume One Washington, D. C., June 1, 1929 Number Seven

ARLINGTON FARM SHOP BUILDING RAZED IN DISASTROUS FIRE

Fire of an unknown cause destroyed the shop building of the Arlington Experiment Farm Saturday night, May 11, resulting in a loss variously estimated from $20,000 to $40,000. The blaze was discovered shortly before seven p.m., and the fire departments of the surrounding communities and Washington were immediately notified. The fire was kept entirely within the confines of the shop building. After draining the 50,000-gallon storage tank, suction lines were run from the river and the reserve pond near Military Road. For over seven hours the firemen fought the blaze, the last piece of apparatus not leaving until 2:30 a.m. Sunday.

A partial estimate of the loss indicates that the entire superstructure of the building was destroyed and that some of the walls were so badly damaged that they can not be built upon. The equipment of the carpenter shop suffered severely, that of the paint shop was a total loss, and the electrician's shop was badly damaged. Of the agricultural implements housed, probably not more than one or two grain drills, mowing machines, cultivators, and a little other similar equipment were totally destroyed. Much of the damaged material may be salvaged but will require repair and numerous replacements.

The cause of the fire could not be determined at press time, but spontaneous combustion or defective wiring have been suggested as the cause. Smoking was not permitted except where the building was reasonably fireproof, and the wiring for power and lights was of rigid metallic conduit. The partitions were of single pine-board construction, exceedingly dry at this season, and the fire spread rapidly.

A temporary shop building is now rapidly nearing completion. Mr. Butterfield, superintendent in charge, stresses the importance of a more nearly fireproof building, and of reorganizing and segregating certain features to reduce the fire risk.

RESPONSE OF CERTAIN APPLE VARIETIES TO SEASONAL CONDITIONS

A fruit at harvest time may be considered as an expression of the sum-total of the environmental factors that have operated on it during its growth and development. It is known, for instance, that sunshine, or the amount of it which fruit receives during its development, may appreciably influence its chemical composition. Thus, apple or grape varieties develop rather definite seasonal biochemic characteristics, depending on whether the season is characterized by much or little sunshine; or, conversely, by a limited or an unusual amount of cloudy or rainy weather. What, then, is the environmental factor that affects or determines the shape of individual fruits as the prevailing form of a variety may vary, one season with another?

A concrete example will illustrate the point in view: We think of the individual fruits of each variety of apple (any other kind of fruit might be cited equally well) as having a form that is typical and characteristic of the variety, although a range in the form of individual specimens of the variety is always recognized; the extent of that range varying more or less with different varieties. Last season (1928) it was observed in the variety apple orchard at Arlington Farm that certain varieties, normally oblong in shape, were quite uniformly shortened in their axial diameter, so that the typical form for that season became roundish or oblate. For instance, many specimens of Cornell (Cornell Fancy) were oblate, others roundish instead of the usual more or less elongated form characteristic of former seasons. True, some of the descriptions give this variety as "roundish-conic to oblate conic", in form, but a somewhat elongated form has usually been typical of the variety at Arlington Farm. Salome was markedly shortened in its normal axial diameter; and so was Ben Davis, almost to the point of obscuring its identity.

Of course characteristic regional differences in form are fully recognized but they have a different expression from the seasonal variation that is the subject of this sketch. Possibly, however, the genesis is the same.

H. P. Gould of the Horticultural Section of this office is especially interested in the phenomenon described above. If any members of the staff in the field or elsewhere have observed similar variations, or if anything of the kind comes to their attention this season, they will confer a favor by writing to him about it.

GRAPE SPRAYING AND ORNAMENTAL DATE PALMS IN SPAIN

Frank L. Goll has sent in the following interesting comments from Seville, Spain, where he is representing the Department at the Ibero-American Exposition.

> "Grape vineyards in the region about Seville are sprayed at this (April) season. Though of enormous acreage, the vineyards thus far observed are sprayed by the use of knapsack sprayers. Supplies of spray solution, probably Bordeaux, in earthen jugs of approximately 5 liter capacity, are placed along the plant rows. These jugs are painted blue-green, presumably as a precautionary measure of safety to distinguish them from similarly shaped earthen jugs of drinking water carried into the fields by the workers."

"That date palms as ornamentals are highly prized in Seville is evidenced by the fact that individual palms and groups of these palms in the Parque de Maria Luisa, Jardines de S. Telmo, and Jardines de las Delicias, which form the main section of the Exposicion Ibero-Americana, are electrically illuminated by concealed flood lights. Against the dark sky these illuminated date palms actually thrill the spectator by their graceful and majestic beauty."

WASHINGTON BOYS MAKE ENTHUSIASTIC "FARMERS"

One hundred small gardens have been planted this season by the members of the Civitan Boys' Garden Club and 60 to 80 of these young gardeners may be found at work in their gardens any Saturday morning between the hours of 8 and 10. This club was organized about six years ago, in fact, the club just grew from a small group of about 12 boys to its present membership. The project is financed by the Civitan Club of Washington and the membership is recruited from the lists of the Juvenile Protective Association. The object of the movement is to furnish productive employment to city boys and to train them in gardening. The gardens are located on the Anacostia Flats at the east end of the Pennsylvania Avenue bridge, and it would encourage the boys to have persons from the office visit them occasionally on Saturday mornings.

It has indeed been a surprise to see how readily city-reared boys take to the garden training and the way they stick to the work throughout the season. Last year we started with 63 boys and about 15 or 16 dropped out for various reasons, their places being taken immediately by others who were on the waiting list; in fact there were always three or four boys onhand ready to take any garden that was forfeited. The project is supervised by W. R. Beattie, but the training is given by a competent supervisor who is employed by the Civitan Club. Give the boys a call some Saturday morning.

PLANT PATHOLOGISTS PLAN SUMMER MEETING JULY 29 to 31

The American Phytopathological Society will hold its regular summer meeting jointly with the Southern Division of the Society at Raleigh, North Carolina, on July 29, 30, and 31. The meetings this year will feature the diseases of southern crops and are under the direction of R. F. Poole, president of the Southern Division. Complete announcements will be mailed to the membership later and publication will be made in both Science and Phytopathology.

ADDENDUM

Due to an error the date of May 3 was inadvertently omitted from the account of the death of W. H. Wright which appeared in the last number of the NEWS-LETTER.

MANUSCRIPTS APPROVED FOR PUBLICATION

The following manuscripts have received approval for publication:

17. "Diseases of the China Aster." By Freeman Weiss, Pathologist. For publication as an unnumbered mimeographed leaflet.

18. "Tulip Fire." By M. B. McKay, Agent. For publication as an unnumbered mimeographed leaflet.

19. "Hollyhock Diseases." By Freeman Weiss. For publication as an unnumbered mimeographed leaflet.

PROPERTY AVAILABLE FOR TRANSFER

The following laboratory equipment is available for transfer to any one having need for it. If it is desired to procure any or all of this equipment, please address C. E. Schoenhals.

BRIX SACCHAROMETERS

1.	No. 5707	0-8	Temp.	17-1/2°	C.	
2.	5710	0-8	"	"	"	
3.	5711	5-20	"	"	"	
4.	5712	5-20	"	"	"	
5.	5717	18-30	"	"	"	
6.	5726	28-40	"	"	"	
7.	5727	28-40	"	"	"	
8.	----	0-15	"	"	Celsius	
9.	----	0-15	"	"	"	
10.	----	15-30	"	"	"	
11.	----	15-30	"	"	"	
12.	----	30-45	"	"	"	
13.	----	30-45	"	"	"	

1 Polariscope fitted with 100 mm. tubes.

ADMINISTRATIVE DECISIONS AND NOTES

(The following paragraphs are based on decisions, general orders, or interpretations of the fiscal regulations of the Department of Agriculture and are inserted for your instruction and guidance. --Editor.)

GOVERNMENT BILLS OF LADING MUST BE USED FOR FREIGHT AND EXPRESS SHIPMENTS.

(Unnumbered P.B.A. Memo.) --Your attention is again called to the necessity of using government bills of lading on freight and express shipments. The following memorandum under the date of May 16 from W. W. Stockberger further clarifies this order.

"The following is quoted from a recent communication from the General Accounting Office:

> It is noted on vouchers submitted to this office for preaudit by various bureaus of the Department of Agriculture, and also on vouchers submitted for post audit in the accounts of the Disbursing Clerk of the Department of Agriculture, that reimbursement is made on travel expense vouchers for payments by station employees for express charges on shipments received by them.
>
> The Standardized Government Travel Regulations effective March 1, 1929, provide in paragraph 85 that shipments by express or freight of Government property, not classed as baggage and not admissible to the mails, should be made on Government bills of lading and that such charges must not be paid by the traveler. While it may at times be necessary to pay charges on shipments not made on Government bills of lading, it is suggested that such charges be billed by the express company on vouchers, rather than paid on travel expense vouchers. Charges of this nature are usually incurred at stations and it would appear possible and desirable to make payments on vouchers submitted by the express companies who furnish the services and such action is requested.

"An additional reason for avoidance where possible of payments of express charges from private or advanced funds is that express shipments are now subject to land-grant deductions. This may not only mean suspension of charges on movements in the land-grant territory, but will impose on the employee the burden of collecting any disallowance from the express company."

P E R S O N N E L N O T E S

FRUIT DISEASES

CHARLES BROOKS attended on May 20 the executive meeting of the Eastern Plant Board in Philadelphia to report on the perennial canker situation.

H. R. FULTON has returned from a field trip to Florida and reports that

the work for the eradication of the Mediterranean fruit fly is well under way. About 3,000 men are engaged in all phases of the work of making a clean-up of all citrus and other host fruits in the infested zones extending one mile from known infestation. Additional nine-mile protective zones are to be kept free from maturing host fruits during the summer period. In the emergency the force at the Orlando Citrus Disease Laboratory has been cooperating with the research entomologists in working on phases of the many-sided problem requiring botanical or bacteriological training.

HORTICULTURE

At Ames, Iowa, according to A. T. ERWIN, ten thousand seedling potatoes have been potted off and are being grown under glass until such time as it is safe to set them out in the open field. These seedlings were grown from hybridized seed produced at the Minnesota Agricultural Experiment Station and by the Department at Presque Isle, Maine. This represents the beginning of a comprehensive potato breeding project between the United States Department of Agriculture and a number of State Agricultural Experiment Stations.

The weather at Greeley, Colorado, continues to be cold for this season of the year. On April 24, the temperature dropped to 26 degrees, which injured some sugar beets and killed some young alfalfa. Plantings of grain, beets, alfalfa, and early potatoes have been late this year and in many instances the seed beds have been poorly prepared.

A meeting of potato growers, dealers and others interested in the potato industry on May 1 was held at the Weld County, Colorado, Court House, to organize the Colorado division of the National Potato Institute. The principal speakers were W. L. HARVEY, of the American Railway Association, and D. W. AUPPERLE, President of the Colorado Potato Growers' Exchange and committeeman for the National Potato Institute for Colorado. Many of those present signified their intention of joining the national organization.

P. M. LOMBARD reports that for the past two weeks the weather in the northern part of Aroostook County, Maine, has been very cold, with high winds part of the time and some rain. Planting operations are well under way. Most of the grain on the higher ground is in and good progress has been made planting potatoes. Two more days will finish planting our experimental potato plots, other than a few miscellaneous lots, and the seedlings in the greenhouse which will not be transplanted to the field until about June 20.

W. STUART left Washington, Wednesday, May 22 for Ames, Iowa, and St. Paul. While at Ames he will inspect some ten thousand seedling potatoes which are in the process of being transferred from the greenhouse to the open field, and will confer with Station representatives relative to their further care and disposition. At University Farm, St. Paul, a conference will be held with representatives of the Minnesota Agricultural Experiment Station regarding plans for a cooperative potato breeding project with this office.

The Colorado State Legislature recently passed a compulsory inspection law for potatoes and some vegetables.

PATHOLOGICAL LABORATORY

MARY K. BRYAN left last week for South Carolina and Georgia in connection with her project on the bacterial canker of tomato.

FLORENCE HEDGES has just returned from the Eastern Shore of Maryland where she has started experiments on bacterial diseases of bean.

NELLIE A. BROWN is leaving this week for the United States Fruit Disease Field Laboratory at Hood River, Oregon, to work with J. S. COOLEY on the perennial canker of apple.

VEGETABLE AND ORNAMENTAL DISEASES

S. P. DOOLITTLE left Bradenton, Florida, on May 20, for Madison, Wisconsin, where he will be engaged in the investigation of mosaic diseases of vegetable crops. His headquarters will be at the University of Wisconsin, Madison, until next November, when he will return to Florida for the further study of mosaic diseases.

On May 15 to 18 FREEMAN WEISS conferred with R. D. GLASGOW, New York State Entomologist, regarding experiments on control of narcissus basal rot in connection with Doctor GLASGOW'S experiments on narcissus fly and eelworm control. The emergence of narcissus flies from fields in which many bulbs infected with rot were planted last fall is now very active, both small and large flies being observed. One of the growers, impressed by the results of the preliminary experiment, planned to spray a considerable part of his field with Bordeaux oil emulsion, in an effort to prevent the emergence of flies. Several severe infestations of eelworm were found.

Arrangements for the season's field experiments on potato wart investigations at Freeland, Pennsylvania, have been arranged by FREEMAN WEISS, who made a trip there May 23-25 for this purpose.

W. J. ZAUMEYER left Washington on May 19, for the West, where he will spend the next four months in the investigation of bean diseases.

THE OFFICE OF HORTICULTURAL CROPS AND DISEASES

S E M I M O N T H L Y N E W S L E T T E R

The Official Organ of the Office of Horticultural Crops and Diseases, Bureau of Plant Industry, United States Department of Agriculture.

(All material contained herein is CONFIDENTIAL, and is NOT FOR PUBLICATION without the prior approval of the Office of Horticultural Crops and Diseases.)

Vol. 1. Washington, D. C., June 15, 1929 No. 8

PEACH PHONY DISEASE ERADICATION WORK UNDER WAY.

Plans are nearly completed for the intensive cooperative campaign to be conducted by the Bureau of Plant Industry and the Georgia Board of Entomology for the eradication of phony peach, for which an appropriation of $85,000 will become available on July 1. Dr. K. F. Kellerman, Associate Chief of the Bureau of Plant Industry, will administer this fund and direct the work. Mr. W. F. Turner will be in charge of field activities. For the past three months Department and State officials have been perfecting these plans during which time the State has been training a group of inspectors for this work. Dr. Lee M. Hutchins, who is conducting the research project on the phony disease and whose discovery last summer that the phony disease was a communicable one, resulted in the recommendation for the eradication project, is cooperating in the work. In a recent letter to Dr. M. B. Waite, he writes:

"I spent a part of one day this week at Thomaston with the eradication forces. The way these men have stepped into the work is almost unbelievable. One day of this week, the three squads inspected seventy-five thousand orchard trees and in most cases cut down the phony trees. The percentage of phony trees (in this area) was generally one per cent or less, and these orchards were planted on the square. The Thomaston district will be finished this coming week and the forces will be moved to a new location, probably an adjoining county. Cooperation of the growers has been excellent.

INSPECTING POTATO SEEDLINGS

During a recent trip to Ames, Iowa and the University Farm at St. Paul, Minnesota, in the interest of the National Cooperative Potato Improvement Project, Dr. William Stuart, Senior Horticulturist, Potato Investigations, had an opportunity to inspect over eight thousand potato seedlings which are being grown from seed at the Iowa Agricultural College under the supervision of Prof. A. T. Erwin.

These seedlings which had been produced from seed supplied by the United States Department of Agriculture and the Minnesota Agricultural College had been divided into two equal lots, one of which is planted on typical corn belt soil on the college farm, and the other on muck soil some seven miles distance from Ames. The college farm plot of land is equipped with the Skinner system of irrigation and is to receive water as may be necessary to keep the plants in an active growing condition. Both lots of plants were becoming established and there were only a few missing plants and most of these were due to cutworm injury. Some interesting frost susceptibility was noted on the muck soil, in particular, as a result of a light freeze after the plants were transferred from the greenhouse to the field.

At Clear Lake an opportunity was afforded of noting the condition of some half dozen of the Department's more promising seedlings which were being grown from tubers on Sam Kennedy's muck land farm.

On the following day (May 25) the Hollandale Farms Company's tract at Hollandale, Minn. was visited by three parties from the Iowa Agricultural College, four from the Minnesota Agricultural College and W. Stuart. On this tract of some 15,000 acres 5,000 have been planted with potatoes. Last year 7000 acres were devoted to potatoes. Quite a large proportion of last season's crop had been held over in pits and there had apparently been some heavy losses from frost and from decay in many of them, if the quantity of potatoes scattered around on the ground furnished fair evidence of such a supposition.

University Farm, St. Paul, Minn., was visited on May 27. Dr. Krantz had at that time between five and six thousand seedling potatoes in the greenhouse awaiting favorable conditions for their transfer to the field. Some lots of seedlings were very uniform in size and vigor.

The following observations denote the relative seasonal conditions at University Farm:- Lilacs not yet in full bloom; spirea Van Houtii just showing color in flower buds; Darwin tulips in full bloom; apple trees hardly in full bloom.

NATURE NOTE.

A rabbit's tail is short and fat,
The tiger's tail is long.
The mouse's tail is thin and frail,
The monkey's tail is strong.
The elephant wears one tail aft,
And one upon his face--
While Mr. Snake is just a tail
That has no parking place!

COLORADO POTATO EXPERIMENT STATION, GREELEY, COLO.

Dr. V. R. Boswell was a visitor at the station May 26 and 27. At this time the cabbage experimental work was discussed and fields of market gardeners were visited. Potato growers are now planting the late crop. A few weeks ago it was believed that there was sufficient moisture to germinate the seed, but at the present time moisture in many fields is low. Some growers have irrigated the ground before planting while others are planting and irrigating-up. At the station the soil contains sufficient moisture to insure good germination. The alfalfa ground was crowned last fall and plowed this spring although most farmers plow only in the spring. It is believed that the fall crowning followed with spring plowing conserves the moisture, while where alfalfa is left late in the spring it draws heavily on the soil moisture. Beets, alfalfa, early potatoes and grain look good at this time.

PRESQUE ISLE, MAINE

The month of May has been the coldest May for this section of Maine for 15 years. We did have two days the 28th and 29th which were exceptionally hot. We have had more or less rain since May 30. The grain crop is practically all in. From 85 to 90% of the potato acreage is planted. It is doubtful if any decrease from last year's acreage can be looked for. More double strength fertilizer has been used this year than ever. The market is very quiet with few dealers buying at $1.00 per barrel for Green Mountains.

A certain farmer, convinced that he needed a horse on his place, was bargaining with a rather smooth trader. The latter displayed a horse, leading him around and dilating on his good points. "Note," he said, finally, "his beautiful, silky coat." The farmer, who had been observing the rather labored breathing, not to say heavings, of the animal, replied: "Yep; his coat is all right, but I don't care very much for his pants."

GRAPE BLOSSOMING.

MR. GEORGE C. HUSMANN, Pomologist, Grape Investigations, reports as unusual this year the fact that with the Riparia and Vinifera varieties the grape blossoming period began and ended practically simultaneously at the Department's experiment vineyards on Arlington Farm, Rosslyn, Virginia, and at Fresno, California. At the Arlington Vineyard although favorable weather prevailed during the blossoming period, bees and other pollinating insects were scarce and present indications are that most of the varieties set poorly. The Fresno experiment vineyard fortunately escaped injury from the unusual and severe late spring frosts of this year in California, but at the Department's experiment vineyards at Chico, Elk Grove and Oakville, California, these frosts occurred when the young shoots were from one to eight inches long and, finding the vines in an especially susceptible condition, even damaged much of last year's wood. The young growth now coming mostly from secondary buds is not far enough advanced to estimate the crop.

Mr. Husmann, incidentally, has just received notice regarding his election as a member of the Committee on Wines and Viticulture at the International Exposition, Barcelona, Spain, September, 1929.

SUCCESS WITH TROPICAL AND SUBTROPICAL FRUITS AT LOS ALTOS, CALIF.

In connection with Mr. Husmann's reference to the severe frosts in California the past year, it is interesting that Mr. G. P. Rixford, Associate Physiologist in the Office, has for a number of years past been conducting at his own expense a number of tests of tropical and subtropical plants on a small farm near Los Altos, California. He reports that in spite of the severe frost he was able to grow during the year such things as the Sapote blanco, avocados, practically all kinds of citrus, citron, guavas, etc. without protection. Mr. Rixford writes that these experiments have attracted the attention of members of the horticultural sections of the California universities, as well as growers generally, and appear to indicate that a considerable number of tender plants may be grown successfully on thousands of acres of the hilly regions in the counties of San Mateo, Santa Clara and other counties of central California

ADMINISTRATIVE NOTES.

As this issue of the NEWS LETTER goes to press, the administrative officers are struggling with the letters of authorization for the new Fiscal Year. Every employe performing travel is urged to read his letter of authorization carefully when he receives his copy of it --and follow it explicitly. There will be a few modifications of importance. The payment of express is prohibited, for example, for reasons already made known by official orders and the NEWS LETTER. There is also a strong tendency on the part of the Bureau to reduce expenditures in connection with the use of personally-owned automobiles on a mileage basis. The future policy will be to recommend the purchase of official cars where extensive travel is necessary. It is believed that a Government-owned car would be more economical.

Unless the need appears vital, then, the provision regarding the use of personally-owned automobiles is apt to be eliminated from authorizations effective July 1, 1929, though it will be continued in all cases where the needs of the work demand it, of course. And, in keeping within the provisions of your letter of authorization, do not fail to remember that this includes funds as well as authority. Some of our travelers adopt the practice of carrying their copy of the authorization in their pocket books. They note on its back every account sent in, every transportation request used, etc. so that they always know just what balance they have. Those employees who have been in the habit of exceeding their allotments, trusting to some mysterious providence here at Washington to make good their deficits, may receive an unpleasant surprise if they continue the practice during the coming fiscal year.

OLD FISCAL YEAR, THE BOGEY MAN. -- Old Fiscal Year, the "bogey man", chuckles with glee in his coat of tan, at the frantic efforts of the Budget clerks to juggle their figures and make 'em work. He creates anxiety though his end is near, implants in the heart a sense of fear that shortage of funds will cause us pain, and leave us standing "out in the rain." A sigh of relief at his demise is heard, for this old guy is an awful bird; but he'll haunt us still, as in days of yore-- for his new-born babe knocks at our door!

E. C. Scott (Crop Physiology)

PERSONNEL NOTES

HORTICULTURE

DR. BOSWELL spent June 7 at Clemson College, South Carolina, going over collaborative work on variety type book studies with Prof. R. A. McGinty, of the Department of Horticulture.

At the Willard, N. C. Experiment Station, Mr. Charles Dearing has four acres of plants of the U.S.D.A. #659 strawberry, now named "Blakemore". This variety is to be introduced next winter. Mr. Dearing also has about one acre of the U.S.D.A. #655 strawberry which is to be introduced in 1930-1931.

Geo. M. Darrow and Geo. F. Waldo drove to Fruitland, Md., May 27-29 with several crates of different varieties of strawberries to test the usefulness of the new "hulling" or "capping" machine to be used by "cold packing" plants. This machine is very promising.

A new blackberry, a hybrid of the Himalaya and an erect-growing blackberry, appears promising at Willard, N. C., at Washington, D. C. and at Corvallis, Ore. It grows like the Himalaya but has a fruit of the size of the best native blackberries. Canes of the Himalaya have been known to grow 40 feet long in one year and Darrow and Waldo are awaiting the end of the growing season this year with great interest.

Among the visitors at the strawberry breeding grounds at Bell this year were Prof. J. Harold Clark of the New Jersey Station, Mr. Howard DeCou, a large strawberry grower of New Jersey, W. F. Allen and Lee Allen of the W. F. Allen Nursery Company, and Dr. G. H. Berkeley, small fruit pathologist of the Canadian Department of Agriculture.

Walter M. Peacock, Associate Horticulturist, spent the last week in May helping W. J. Reid, Jr., Bureau of Entomology, harvest the third planting of potatoes in the experiment for controlling the seed corn maggot in the seed potato pieces.

Dr. David Griffiths will leave June 12 to attend to bulb digging at the Stations at Willard, N. C., and Charleston, S. C. Upon his return to the office he will leave at once for the Pacific Northwest to attend to bulb digging and planting at the Bulb Station at Bellingham, Wash. He will return to the office in September.

FRUIT DISEASES

Dr. G. H. Berkeley, Senior Pathologist in Charge of the Dominion Laboratory of Plant Pathology, St. Catharines, Ontario, recently visited the Fort Valley, Georgia, region for the purpose of observing the phony disease and the eradication program. On June 3, he spent the day in Washington for the purpose of looking over the strawberry breeding plots at Bell and the studies of the virus diseases of strawberries being inaugurated at the Falls Church Laboratory. Small fruit growers and Pathologists of southern Ontario are much interested in strawberry troubles which closely resemble those found in the eastern United States, and Dr. Berkeley has already sent in specimens for comparative study.

Dr. A. G. Plakidas of the Louisiana Experiment Station has arrived at the Falls Church Laboratory where he will spend the summer studying virus diseases of strawberries. Specimens of diseased strawberries have already been received from Massachusetts and from Canada and it looks as though he will have plenty of material on which to work.

Bain reports a new type of water injury to cranberry vines as being very serious in Wisconsin this year. The leaves of the injured vines all drop shortly after removal of the winter flood. Sometimes terminal buds are killed but the vines are not otherwise hurt, and new vegetative shoots grow profusely from the bare vines. There is, of course, no crop from the vines the year of the injury. The water injury hitherto recognized has been chiefly of two general types - injury to flower buds and growing tips from reflows made during May or June, and injury to the keeping quality of the fruit due to frost reflows made in September. Aside from the bogs which have been subjected to this peculiar water injury, Bain reports Wisconsin prospects for a cranberry crop very good.

John W. Roberts visited Mr. Leslie Pierce at the field station at Vincennes, Indiana. With Dr. Gardner of the Purdue Station, Pierce and Roberts went over the plots of peaches which had been sprayed with the new zinc lime mixture for the control of the bacterial spot. When used with arsenate of lead there was no material injury and when used alone the new sprays caused practically no injury even when used at double strength.

It isn't the task that shall make or mar
Your chance in life, it is what you are.
Whatever the job that you find to do
It is only a chance for the best of you.
-- Edgar Guest

PATHOLOGICAL LABORATORY

In a recent trip to the eastern shore of Maryland Florence Hedges found the farmers in the vicinity of Chestertown complaining of the ravages of the Mexican bean beetle. In her experimental plots the invasion was not severe. The limas were more infested than the string and shell beans.

Mary K. Bryan is leaving June 14 for a study of bacterial canker of tomatoes in Utah and California. She will stop en route at Geneva, N. Y. to inaugurate some experiments on this disease.

VEGETABLE AND ORNAMENTAL DISEASES

FREEMAN WEISS attended a meeting of the New York City Florists Club, June 10, and gave an informal talk on the work of the Department on the diseases of decorative plants. He will visit the Coastal Plains Experiment Station at Willard, N. C. and the bulb centers at Norfolk and North, Virginia, to investigate bulb diseases, June 13 to 23.

MICHAEL SHAPOVALOV will attend the meetings of the Pacific Division of the American Association for the Advancement of Science, at Berkeley, Calif., June 19 to 22, and present a paper on the tuber transmission of psyllid yellows. Mr. Beecher will also attend the meetings.

LESTER M. BLANK will spend from June 3 to June 30 in Tennessee and Wisconsin investigating the diseases of cabbage, including an inspection of cooperative yellows-resistant cabbage breeding plots.

W. W. GILBERT and E. A. DOPP spent June 7 at Hanover, Md., setting out cantaloupe plants in the field, in connection with studies on disease of cantaloupes.. Mr. Gilbert also visited Norfolk, Va., June 11, and conducted an experiment on the eradication of cucumber mosaic, in cooperation with JAMES GODKIN of the Virginia Agricultural Experiment Station and F. P. McWHORTER of the Virginia Truck Experiment Station.

E. ALINE FENNER and G. H. MARTIN returned June 6 from a 3-days trip to the New York Botanical Gardens, the Agricultural Experiment Station at New Brunswick, N. J., and a number of nurseries in the vicinity of New Brunswick, including the Dreer Nursery. They investigated the diseases of delphinium, iris, roses, and phlox.

Charles J. Gray was appointed as Under Scientific Helper, effective June 1, to assist Freeman Weiss in the investigation of diseases of ornamental plants.

Lester M. Blank has been appointed as agent, effective June 1, to assist J. C. Walker in cabbage and onion disease investigations, with headquarters at Madison, Wisconsin.

PLANT PHYSIOLOGY

Mr. Frank L. Goll, Department representative at the Ibero-American Exposition at Seville, Spain, reports that the Exposition was officially opened on May 10 with elaborate ceremonies. His Majesty, Alphonso XIII, King of Spain, accompanied by the Queen, the Premier, United States Ambassador to Spain, Mr. Ogden Hammond, and a large official party attended the ceremonies. Each of the United States representatives was presented to His Majesty. On the following day, May 11, the buildings housing the United States exhibits were closed to the public in order that the King and his party might personally inspect each exhibit. It was Mr. Goll's honor and pleasure to explain the various Department exhibits to His Majesty and he was much interested in the activities of the Department.

The Exposition buildings are open to the public each day from 10 A. M. to 1 P. M. and each evening between 5 P. M. and 11 P. M.

Mr. Goll states that the Department exhibits are receiving much favorable comment and that the Office of Exhibits deserves much praise for executing the plans of the Committee on Exhibits so well.

The degree of Doctor of Philosophy in Chemistry was conferred on Klare S. Markley by the Johns Hopkins University on June 11, 1929.

The college boy who had agreed to help out a farmer during the school vacation, was shocked to find what his hours of labor were to be. The second morning when the farmer came to call him, he said, bitterly: "I have only one request to make--and that is that you please let me stay in bed long enough for the lamp chimney to cool off."

CROP PHYSIOLOGY AND BREEDING

MR. T. RALPH ROBINSON, Senior Physiologist, is now at Weslaco, Texas, assisting in the planting out of a rather large collection of date offshoots brought in by the Department from the 'Iraq. These are to be tested out under field conditions in the hope of finding varieties suitable for commercial culture in Texas. The experiment is being undertaken in cooperation with the Texas Experiment Station, and on the Sub-Station Farm at Weslaco. The offshoots are part of the collection brought in recently by Mr. Roy W. Nixon, Assistant Horticulturist, upon his return from an eight-months trip to Mesopotamia where he made a careful study of the date varieties of that region with a view to determining their possible value for commercial growing in the United States. A representative collection of offshoots from this importation is being grown under quarantine at Beltsville, Md. for the present.

MR. EUGENE MAY, Jr., Senior Scientific Aid, and an expert on plant propagation methods and greenhouse equipment, has left for the U. S. San Diego Acclimatization Garden at Torrey Pines, near La Jolla, Calif., where he will assist in the installation of greenhouse and propagation equipment. This greenhouse will serve as a receiving station, chiefly for citrus plants, to permit re-inspection by local authorities as well as to afford a place to keep the plants clean after arrival and pending their distribution for field tests. Only clean plants--plants guaranteed absolutely clean by the Plant Quarantine and Control Administration's inspectors--will be sent to this greenhouse at Torrey Pines.

"THE EVERLASTING TEAMWORK OF EVERY BLOOMIN' SOUL!"

> Some time ago the executive secretary of the Typotheta at Washington, D. C. in an address said that "...a man is wealthy who has good health, a happy home, a business or profession in which he is interested, a passion for growth and the ambition to be of service to his fellow men. He could not get any more out of life if he had a million dollars. Good health comes through the practice of good habits. A happy home is developed through a happy disposition, and success is generally achieved through the application of common sense. Common sense is nothing more or less than good business principles, and good business principles have evolved through cooperation, organization and education. The answer to the whole problem of life seems to lie in what Kipling once referred to as "the everlasting teamwork of every bloomin' soul."

THE OFFICE OF HORTICULTURAL CROPS AND DISEASES

S E M I M O N T H L Y N E W S L E T T E R

The Official Organ of the Office of Horticultural Crops and Diseases, Bureau of Plant Industry, United States Department of Agriculture.

(All material contained herein is CONFIDENTIAL, and is NOT FOR PUBLICATION without the prior approval of the Office of Horticultural Crops and Diseases.)

Vol. 1. Washington, D. C. July 1, 1929 No. 9

OKLAHOMA POTATO TOUR

The Fourth Annual Oklahoma Potato Tour which was held June 3 to 8 proved to be one of the most interesting ever held by the Oklahoma potato growers. According to W. Stuart of this office the fields which were inspected in McCurtain, Pushmataha, Bryan, Atoka, Pittsburg, McIntosh Muskogee and Wagoner Counties were more generally free from virus diseases than in 1928 giving evidence that the average quality of the seed used was superior to that planted the previous year. In almost every field examined the plants and tubers gave evidence of injury from too much rain. In several fields there was an unusual amount of rhizoctonia and fusaria infection, and in a few instances blackleg was also observed. Early blight infection was found to be severe in fields in Pittsburg, Muskogee and Wagoner Counties. A case of late blight infection was noted in a field of Irish Cobbler in Wagoner County. Rather convincing evidence was noted which would indicate that the Irish Cobbler was unable to withstand excessive soil moisture as well as the Triumph.

A field of Triumph was being harvested in McCurtain County on June 3 and growers in Muskogee and Wagoner Counties were planning to begin harvesting the latter part of the week of June 9 to 15, or the early part of the week following. The beneficial effect of leguminous cover crops, such as cowpeas, soy beans, sweet clover, vetch, etc. was evident in larger and thriftier potato plants, better stands, and larger sized tubers. The use of cover crops and a crop rotation system is on the increase.

- -

ESTABLISHMENT OF PECAN FIELD STATION NEAR SHREVEPORT

The Office of Horticultural Crops and Diseases is at present participating in the establishment of a new Pecan Field Station near Shreveport, La. Other Departmental offices concerned with the Station are those of Soil Fertility in the Bureau of Chemistry and Soils, and Deciduous Fruit Insects in the Bureau of Entomology. Mr. B. G. Sitton, of South Carolina, whose appointment becomes effective July 1st, and Mr. J. R. Cole, will have charge of the horticultural and pathological activities to be conducted by this Office.

PROTECTING YOUNG FILBERT PLANTS

It was recently observed by Prof. E. R. Lake that young filbert plants about 3 inches high were being uprooted by crows that devoured the seed nuts. It was found that the crows worked only at about daybreak, but that during one morning they had destroyed 80 plants. As the particular plants concerned were the result of last season's cross-pollination in connection with filbert breeding, they were regarded as being entirely too valuable for crow breakfasts. Accordingly, Professor Lake became very busy, and when the crows arrived next morning they found the filbert rows covered with chicken wire.

- - - - - - - - - - - - - - - - -

PRESQUE ISLE, MAINE.

Considerable rain at Presque Isle, Maine, since the crops were planted, has resulted in hay and grain having an unusually favorable appearance at this time and indications are for large yields of both.

Cloudy and cold weather with considerable rain during the latter part of May and the early part of June has retarded potato germination to quite an extent. Plants are just breaking through the ground. Cultural operations have been under way for some time and conditions for the past week have been good for rapid growth.

The seedlings in the greenhouse on Aroostook Farm are about ready to put out and transplanting is expected to begin shortly. As a protection against chewing insects the plants in the greenhouse were sprayed with Bordeaux mixture and calcium arsenate, using considerable excess time.

- - - - - - - - - - - - - - - - - -

COLORADO POTATO EXPERIMENT STATION REPORT

The weather during the past week has been quite hot. The soil has become quite dry and many farmers are irrigating up their potatoes. Potato planting has extended late in the season this year and many fields are only now being planted. Farm crops, in fact, are looking very good.

The first crop of hay is not being cut. The first cutting of alfalfa will be especially good this year.

- - - - - - - - - - - - - - - - - -

PROBLEMS IN NOMENCLATURE

What shall I call
My dear little dormouse?
His eyes are small,
But his tail is e-nor-mouse!
---Milne.

BUREAU MEMORANDUM NUMBER 431

In view of the extreme importance of the subject matter contained in B.P.I. Memorandum 431, dated June 20, 1929, it is reproduced in this issue of the News Letter and all employees are urged to read it carefully and comply with the provisions contained therein:

"The question has arisen from time to time as to the best practice in the matter of signature to letters sent out in the absence of an employee who customarily handles a particular line of work. In some rather specialized lines, we have only a limited number of investigators, in some instances only a single specialist dealing with a particular subject in such a manner as to be thoroughly informed in both a comprehensive way and with details. Replies to letters received in the absence of an investigator are sometimes prepared by members of the clerical staff, the letter being of a type where previous letters of the investigator furnish what apparently constitutes an adequate reply. In some offices I am told the name of the investigator is then signed by the clerk and the letter sent out. In some cases this letter is reviewed by another scientific employee, but this practice is apparently not uniform.

It seems to me desirable that certain practices along this line be recognized as standard. It is not to be expected that a person not adequately trained in a specialty will necessarily appreciate the significance in a wide set of conditions of what may appear on its face to be a simple query. This is, of course, particularly true where an efficient clerk is preparing replies. In no cases should a reply be permitted to leave the Bureau without a review by some responsible employee in a position to adequately pass on the technical questions involved in a letter and its reply.

It would seem to me a highly undesirable practice for anyone to sign the name of an investigator in his absence to an outgoing letter. When an investigator is absent, some other person should be designated by the head of the office to handle his correspondence, if this is necessary. If no one is in a position to answer the letter adequately, a reply should be prepared advising the correspondent of the absence of the person in charge of that particular line of work and that upon his return a further reply will be made. I do not consider it good practice to have correspondence emanating from the Bureau signed by the name of an employee not in fact present and responsible for the material to which his name is signed.

This is not intended to apply to mimeographed material or other informational matter which has been prepared and to which the name of the responsible investigator is attached. This sort of matter may, of course, be distributed without regard to the presence or absence of the individual responsible for the paper.

I shall appreciate it if you will review conditions within your own office and satisfy yourself that the foregoing practices are in effect."

ADMINISTRATIVE NOTES

MEMORANDUM REGARDING STATE GASOLINE TAX
(See P.B.A. Circulars 104, 106 & 119)

REIMBURSEMENT VOUCHERS:

Secure subvouchers in duplicate, both copies to be receipted by the dealer for the full amount paid and to show separately the cost of gasoline and the state tax. The duplicate copy must show in each instance whether the dealer pays the tax direct to the State since this information is necessary to enable the General Accounting Office to secure a refund of the tax from the state concerned. A general statement in the body of the reimbursement voucher that the dealer does or does not pay the state tax is not sufficient since the duplicate subvouchers are removed from the account and forwarded to the General Accounting Office with the monthly schedule of gas tax payments for the Bureau. Each subvoucher should also show clearly the name and address of the dealer furnishing the gasoline.

Form 1034 (white) vouchers:

Secure white vouchers in duplicate as outlined in P.B.A. Circular 106, both copies to be receipted by the dealer and to contain the same information as described above for subvouchers. The additional copy should be clearly marked "DUPLICATE" to avoid the possibility of payment being made on both copies should they become separated before reaching this office. The vouchers should be indorsed "Transit purchase. Contract impracticable. Refund to be claimed."

NOTE:

The above requirements are mandatory upon the Bureau to enable the General Accounting Office to secure refund of the gas line tax from the states concerned, and apply to all purchases in states having a gasoline taxwhether the said tax takes the form of a dealer's or a sonsumer's tax. Special care should be taken to see that each copy of subvouchers or white voucher contains the above information and especially whether the dealer pays the tax direct to the state.

- - - - - - - - -

REORGANIZATION PROBLEMS

In connection with the effort the Office of Horticultural Crops and Diseases is making to build an organization whose foundatiom stone shall be Cooperation, it is interesting to note how people generally are awakening to a realization of the fact that agriculture offers the same sort of problems found in any great business enterprise.

"An editorial writer on the NEW YORK TIMES," says the TOPEKA DAILY CAPITAL," finds the catalogue of our Kansas Agricultural College highly entertaining. He finds, apparently to his surprise, that 'liberal education has a majestic scope,' and that the 'Division of Agriculture has a shrunken look.' Evidently the TIMES editorial writer is laboring under the impression that the business of any agricultural college is to teach young men how to plow corn, plant potatoes, call the hogs and perform other chores around the farm. He has not yet sensed the fact that farming is rapidly becoming, if it has not already become, the most important and the most complex of all the sciences. It rquires more varied information than

P E R S O N N E L N O T E S

Dr. Marion G. Goldsworthy, of California, has been appointed as Assistant Pathologist, effective June 18, to assist Mr. D. F. Fisher in studies of smelter injury in the region of Northport, Washington.

Don B. Creager was appointed June 16 as Agent, to assist in the investigation of diseases of ornamental plants in New York State.

G. M. Dallas, of the American Railway Express Company, conferred recently with L. L. Harter regarding diseases of beans in transit.

Prof. H. R. Fulton left Washington June 22 for California. He will confer with pathologists at the Office of the State Commissioner of Agriculture at Sacramento, and visit California branch experiment stations at Davis and Riverside, and study citrus diseases at Oroville, Porterville and other points, particularly in southern California.

Mr. T. Ralph Robinson, Senior Physiologist, is expected to reach Washington D. C. the early part of July from a trip to Florida and Texas where he has been inspecting the various Citrus test groves and supervising the planting of date offshoots at the Texas Agricultural Experiment Sub-Station at Weslaco, Texas.

M. B. Linford was a recent visitor to this office, enroute to Hawaii, where he has accepted a position as pathologist with the Pineapple Growers Association.

Dr. C. L. Shear left Washington June 19 for New Jersey for the study of cranberry diseases. Dr. Neil E. Stevens, under date of June 20, writes that Dr. Shear is at Toms River, among other things going over some of the bogs in which his first cranberry spraying was done. Since this was the first cranberry spraying ever done, these bogs have a certain historical interest to plant pathologists.

Mr. Lowell F. Butler, Associate Pathologist, has been transferred from Chicago, Ill., to New York, N.Y. Mr. Butler is engaged in the study of fruit diseases occuring on the market, in storage, and in transit. He also cooperates with the inspectors of the Food Inspection Service of the Bureau of Agricultural Economics.

The week-end of June 22, Professor R. A. McGinty, from Clemson College, South Carolina; Mr. H. H. Zimmerley, from Virginia Truck Experiment Station, Norfolk, Virginia; and Dr. J. E. Knott, from State College, Pennsylvania, were in Washington, D. C. Going over the cabbage variety trials at Arlington farm. These men are all collaborating in the cabbage studies with this office and have established plantings similar to those at Arlington at their respective stations.

Mr. Jess R. Kienholz has been appointed Field Assistant to assist in the study of perennial canker and other orchard diseases at Wenatchee, Wash.; Mr. Charles Thorne, to assist Mr. Leslie Pierce in spraying experiments for disease control, at Vincennes, Indiana; and Mr. Harold S. Morrow, to assist in spraying and inoculation experiments at Fayetteville, Arkansas.

Mr. J. L. Pelham, Associate Pomologist locally in charge of the U.S. Pecan Field Station at Albany, Ga., led a round table discussion of Pecan Cultural Problems during a meeting of the Georgia-Florida Pecan Growers Association, which was held at Waycross, Ga., May 29 and 30. Mr. Pelham is now on a short vacation with his family at Atlantic Beach, Florida, near Jacksonville.

Dr. A. G. Plakidas, of the Louisiana Experiment Station, who is collaborating in the investigation of virus diseases in Falls Church, Va. and Bell Station, Md., left Washington June 24 for State College, Pa., New York Experiment Station, at Geneva, and St. Catharine's, Canada, to examine strawberry plantings at each of these points.

Mr. John A. Ferrall spent the last week of June attending the annual meeting of the American Federation of Organizations for the Hard of Hearing at Cleveland, Ohio. Mr. Ferrall is Chairman of the Washington Delegation which attended the convention and contributed to the entertainment feature of the meeting a "chalk talk"--humorous illustrations and cartoons on a blackboard.

Tomosuke Nakashima, Professor of Plant Pathology, Suigen Agricultural College, Chosen, Japan, conferred with L. L. Harter during the past week on studies of diseases of beans that are pertinent to Japan. Mr. Nakashima will be in Washington for several weeks, spending the most of his time in the Department library.

Freeman Weiss made a brief visit to New York to confer with H. H. Whetzel, at Cornell University, regarding diseases of ornamental plants.

MERELY A HORTICULTURAL PROBLEM.

"Positions are a good bit like apples," declares an efficiency expert. "Those that are easy to get lie on the ground under the tree and are sure to be found jammed or wormy or rotten, but there are many people who are too lazy to do more than stoop down. Those which hang low on the tree are hard and green and are apt to give one the stomach ache. It is only at the top of the tree that you will find the best fruit, where the rains have washed off the dust and the sun has painted rosy cheeks. But to reach the top you have to do a great deal of climbing and it is hard work to climb trees. You may prefer to lie on your back under the tree with your mouth wide open, hoping that a juicy apple will drop into it, but take my word for it, the apple is more likely to drop just outside the opening and damage your countenance. It is mighty poor policy to trust to luck when, by hard work, you can grab the thing you are after."

Let us be content, in work,
To do the thing we can, and not
presume
To fret because it's little.
--Eliz. Barrett Browning.

THE OFFICE OF HORTICULTURAL CROPS AND DISEASES

S E M I - M O N T H L Y N E W S L E T T E R

The Official Organ of the Office of Horticultural Crops and Diseases, Bureau of Plant Industry, United States Department of Agriculture.

(All material contained herein is CONFIDENTIAL, and is NOT FOR PUBLICATION without the prior approval of the Office of Horticultural Crops and Diseases.)

Vol. 1, No. 10 Washington, D.C. July 15, 1929

COLD STORAGE AT 37 DEGREES DESIRABLE FOR SEED POTATOES

Cold storage of seed potatoes should not run too close to the freezing point, says a Press Release from the Office of Information, and 37 degrees Fahrenheit is probably a desirable temperature, potato specialists of the Office of Horticultural Crops and Diseases have concluded after storage experiments with seed potatoes in several seasons. "The results of the studies appear in Technical Bulletin 117-T, Comparative Influence of Different Storage Temperatures on Weight Losses and Vitality of Seed Potatoes. When potatoes are stored at a temperature of 32 degrees considerable decay results. At temperatures of 36-40 degrees the potatoes remain approximately dormant for the usual storage season and may even be stored for an additional year without excessive deterioration in appearance but not in quality.

"The authors, William Stuart, P. M. Lombard, and Walter M. Peacock, experimented with storage of seed potatoes not only at the Arlington Farm but also at the Virginia Truck Experiment Station near Norfolk, Va., at the Marble Laboratories Canton, Pa., and at the Aroostook Farm of the Maine Agricultural Experiment Station. Different varieties of potatoes showed slight differences in response to variations in storage conditions. Variations in storage temperatures did not reveal important differences in yields from the stored seed stock of the Irish Cobbler variety. Results indicated the desirability of holding potatoes for several days at a 70-degree temperature after removal from cold storage and before planting."

GOULD AND ANTHONY STUDY WILD SEEDLING MAZZARD CHERRIES.

The first two days of the month H. P. Gould, Senior Pomologist of the Office of Horticultural Crops and Diseases, spent in central Pennsylvania with Dr. R. D. Anthony, State College, studying the wild seedling mazzard cherry trees, of which there are almost countless thousands in that region, to see if any individual trees could be located which bear fruit suitable for making maraschino cherries and other cherry products. While several distinct types were observed, none having the requisite firmness of texture could be found.

One of several exceedingly interesting observations was the uniformity of type reproduced in the natural propagation from seeds of these mazzard trees. Numerous instances were seen where the trees in a group were so nearly alike as to suggest that they were all the same horticultural variety propagated by budding from a common source, if circumstantial evidence did not make seedling propagation an unquestioned certainty.

THIS "BIG FELLOW" IS A PEACH!

In an orchard of the California Packing Corporation at Porterville, reports Mr. C. S. Pomeroy, of Riverside, is a peach tree of the Hauss variety which has consistently been a heavy producer of high-grade fruit. The orchard was planted in the spring of 1920, and this spring the tree was 17 feet high, with a spread of 18 feet 6 inches and a trunk circumference of 24-3/8 inches! Its production in recent years has been--1925, 18 boxes (40 pounds); 1926, 19-1/2 boxes; 1927 (frosted) 14 boxes; 1928, 26 boxes of No. 1 fruit and 1/2 box of culls, or at the rate of over 53 tons per acre. The 1929 crop is estimated to exceed that of last year. The trees around this one are of average size, and the orchard as a whole produced 9 tons to the acre in 1928. Propagations will be made from this heavy producer this fall to determine whether its bearing habit will be transmitted to its progeny.

AGRICULTURAL RESEARCH

The Antigo (Wis.) JOURNAL is credited with this appreciation of the value of agricultural research: "Comparatively few farmers realize the relation that should exist between the investigators of agricultural problems and agriculture in general. Too many still regard our scientific men as unpractical theorists whose principal function is to look wise and wear white collars. They say that it is impossible for a man who has never worked on a farm to be in a position to tell the farmer anything that will be of value to him....The principal reason why great forward strides have been made by our large industrial institutions in recent years is because they have employed scientific men to work out problems that can not be solved by the workmen who do not understand the laws underlying the properties of matter with which they deal. Recently we had the great pleasure of visiting the research laboratory of one of America's greatest industrial concerns. There we saw how much industry depends upon science and more than ever realized the important place the scientist of today occupies in the industrial world. The thought struck us forcibly that if the farmer would listen to the scientist and follow his suggestions as willingly and as rapidly as the industrialist does, agriculture would gain more rapidly in efficiency. Our agricultural experiment stations bear the same relation to agriculture as do the great research laboratories to our manufacturing institutions. The principal difference is that the former are maintained for the farmer at public expense while the latter are maintained by the manufacturers at their own cost. Agricultural scientists have been busily at work for the last fifty years, yet thousands of farmers are still in doubt as to whether scientific investigations in behalf of agriculture are worthwhile. If our greatest industrial organizations can profit by the investigations of the scientist and feel the need of his assistance in their business, why should not the farmer look to the agricultural scientist to help solve his problems which in many respects are more urgent, more complicated and more difficult of solution? Let the farmer look to his experiment stations for help and assistance and give them his most hearty support. They are worth infinitely more to him than their cost."

COLORADO POTATO EXPERIMENT STATION

The weather continues to be hot and dry, reports Mr. W. C. Edmundson, and crops in the dryland area are suffering from lack of moisture. In the irrigated district where irrigation water is plentiful, crops are looking well, but in some sections water is scarce and crops are suffering from lack of moisture. Some fields of early potatoes look well, while others range from fair to poor. Some of the growers of the early crop will begin harvesting within the next two weeks. The stand of the late crop of potatoes is only fair. Much seed has failed to germinate because of lack of moisture and considerable seed has rotted in the ground.

PRESQUE ISLE, MAINE.

"The seedling potatoes which have been growing in the greenhouse," writes C. F. Clark, "were transplanted in the field last week. The number set out this year was 4,480. The plants were large, with good root systems and the land in excellent condition, so I do not expect the losses resulting from transplanting to be large. The germination of the tubers planted in the field has been rather slow because of the cool weather following planting. Recently, however, warm weather has prevailed which has hastened the growth of the young plants considerably."

P. M. Lombard also reports from Presque Isle, "We have had excellent growing weather and potatoes have made a large growth. The writer is not aware of any spraying being done to date other than on our plots on Aroostook Farm and in the vicinity of Houlton, where apparently earlier planting was made than farther north. We have had considerably more rain during June and the early part of July than is usual for this section. The Colorado potato beetle is scarcer this year than ordinarily, the writer having seen but three this season."

REPORTS FROM HUSMANN.

"In a former number of the NEWS LETTER, Geo. C. Husmann, Pomologist, reported late spring frost of 1929 damaging fruits in California. Since then 2-1/2 inches of rain fell during June in some of the Bay Counties of California. Mr. Fred L. Husmann, Superintendent, reports that at the Department Experiment Vinery at Oakville, Napa County, California, the thermometer registered 97° F. June 19; 108 on June 20; 110 June 21 and 107 on June 22, in the shade, resulting in much damage to grafts of Vinifera grape varieties on Phylloxera-resistant stocks in the Department grape nursery at this place. Mr. Elmer Snyder, Associate Pomologist, reports that at the Department's Experiment Vineyard near Fresno, California, the thermometer registered 102° F. on June 20; 106 June 21; 107 June 22; 108 June 23 and 110 on June 24, in the shade." GEO. C. HUSMANN, Pomologist, Grape Investigations.

ERRATA

Due to a slipping of the stencil, a line was omitted from the paragraph "Reorganization Problems" on page 79 of the NEWS LETTER for July 1. The last line of the paragraph reads "any other business and, in order to succeed, a greater intelligence."

IN A LIGHTER VEIN

PROBLEMS OF THE PLANT BREEDER: The plant breeder's efforts to develop new varieties or to improve existing sorts are often fraught with discouragement, if we may judge from a recent note concerning the plant breeder who crossed a head of cabbage with the potato and succeeded in growing eyes on it. A succeeding cross with the cornstalk produced ears, while a hybrid between this creation and the squash supplied a long, graceful neck. Crossing this complex hybrid with the coconut, hair was added to the new plant. But up to the present time the breeder has been completely baffled in his attempts to give the hybrid a mouth and nose.

"Your methods of cultivation are hopelessly out of date," said the youthful agricultural college graduate to the old farmer. "Why I'd be astonished if you got even ten pounds of apples from that tree."

"So would I," replied the old farmer. "It's a pear tree."

----Film Fun.

THE FARMER'S PLACE IN CIVILIZATION. "Let us never forget," said Daniel Webster," that the cultivation of the earth is the most important labor of man. Man may be civilized in some degree without great progress in manufactures and with little commerce with his distant neighbors. But without the cultivation of the earth, he is, in all countries, a savage. Until he gives up the chase, and fixes himself in some place, and seeks a living from the earth, he is a roaming barbarian. When tillage begins, other arts follow. The farmers, therefore, are the foundation of civilization."

THE UNAPPRECIATED SCIENTIST. Writing of William Gibbs, the father of modern physical chemistry, J. B. S. Haldane points out that the present day scientific investigator occupies a bed of roses, so far as general appreciation of his work is concerned, compared to the research worker of the old days. He states that Gibbs, who was perhaps the greatest American scientist of the nineteenth century, everything considered, was so lightly regarded in his own household that his sister often required him to stop his work to drive her around on her shopping tours and visits since she regarded the time of her husband, a business man, as too valuable to be wasted on this, while Gibbs' work didn't matter.

Where grows?--where grows it not? If vain our toil
We ought to blame the culture, not the soil.

--Pope

PERSONNEL NOTES

(It is not always practicable to arrange these personnel items in the order of their importance, as it is usually necessary to write them up in the order of their receipt at Washington.)

A. D. SHAMEL and C. S. POMEROY, of the Riverside office drove on June 24 to the large apricot and peach orchard of the California Packing Corporation at Merced, California, to conduct bud-selection studies on Royal and Tilton apricots. Similar studies have been made on a number of peach varieties at that ranch for several years, and the work will be continued this season.

DR. NEIL E. STEVENS, on June 24, in company with E. V. SHEAR of the New York Experiment Station and C. O. Bratley, made a trip through the region around Highland, Milton and Marlborough, N. Y., looking for cane blight on currants. There is rather more cane blight than last year, but still not enough to be of any commercial importance.

DR. C. L. SHEAR and NEIL E. STEVENS report a very pleasant three days at the meeting of the Botanical Society of America at Dartmouth College. They were the only representatives of the Bureau at the meeting, although there were two Junior Botanists from Washington, the son of Dr. H. B. Humphrey and the son of the late Dr. W. E. Safford.

DR. H. F. BERGMAN visited the Wisconsin cranberry bogs during the third week of June at the urgent request of Mr. H. F. Bain and Mr. Rogers of the Wisconsin Department of Agriculture to study the very severe injury to the cranberry vines from the winter flowage. There has been more or less of this injury observed each year, but this time it was very severe, as many as half of the vines on some bogs being defoliated. This is a very interesting problem and apparently involves the study of the O_2 content of water during the winter and especially under ice.

DR. JOHN W. ROBERTS visited the field laboratories at Fayetteville, Ark., and Vincennes, Ind., where he went over the fruit disease work conducted at Fayetteville with Mr. Dungan and at Vincennes with Mr. Pierce. This season's work with the zinc sprays continues to show promise of giving good results in the control of peach bacterial spot.

W. W. GILBERT has made several inspection trips recently to cucumber and cantaloupe experimental plots in the vicinity of Hanover, Maryland, and found mosaic milkweed invading some of the fields. Mr. Gilbert and Mr. F. C. Meier, Extension Pathologist, left on July 11, joining Mr. James Godkin, Extension Pathologist of the Virginia Truck Experiment Station, to make observations on the progress of mosaic-eradication demonstrations with cucumbers and cantaloupes in the vicinity of Norfolk, Va.

DR. E. S. SCHULTZ was in Washington from July 5 to 8, conferring with Dr. E. C. Auchter. He left for a trip to Colorado, California, Oregon, Montana and Idaho, and will be gone about a month, when he will return to his permanent station at Presque Isle, Maine. The purpose of his trip is to become acquainted with the work of the office on curly top disease of vegetables and potato virus diseases in the Northwest.

DR. FREEMAN WEISS visited the York Ice Machinery Company at York, Pa., consulting the engineers regarding the construction of a pre-cooling and storage shed for bulbs. On July 12, Doctor Weiss visited the Van Waveren bulb farms at Nuttall, Va., and initiated experiments in the new bulb house. On July 16 he will leave for a trip through New Jersey and New York, where extensive laboratory and field investigations on the diseases of flowering bulbs and other ornamentals will be conducted throughout the summer. Doctor Weiss will also spend about ten days in Pennsylvania, beginning July 20, investigating potato diseases, including the inspection of the progress of potato wart-resistance experiments.

W. A. WHITNEY spent June 26 on the Eastern Shore, Maryland, and July 5, at Westminster, Maryland, inspecting bean fields.

DR. H. HASSELBRING has recently returned from a trip to Flint, Michigan.

DR.K. S. MARKLEY is at Geneva, N. Y., and upon completion of official work there will go to the station at Ithaca. Doctor Markley is collecting varieties of apples in connection with the apple wax work.

EUGENE MAY, Jr., Principal Scientific Aid, will spend the next week or so at the U. S. San Diego Acclimatization Garden, Torrey Pines, California, where he has been since late in June superintending the installation of propagating equipment, the erection of a portable greenhouse, etc. During the past two weeks Mr. Frank A. Thackery, Senior Agriculturist, and Mr. Robert H. Peebles, Senior Scientific Aid, have been assisting with this work. It is proposed to establish facilities at this station to equip it to serve as a receiving center, chiefly for citrus plants, to permit re-inspection, etc., before their distribution for field tests. Dr. Walter T. Swingle, Principal Physiologist in charge of Crop Physiology and Breeding work is directing the installation.

T. RALPH ROBINSON, Senior Physiologist, reached Washington July 6 after an extended trip through Florida and the Gulf States during which he inspected the work on breeding and testing new citrus fruits, and assisted with the planting out of date offshoots at Weslaco, Texas.

The first farmer was the first man, and all historic nobility rests on possession and use of land.

--Ralph Waldo Emerson.

THE OFFICE OF HORTICULTURAL CROPS AND DISEASES

SEMI-MONTHLY NEWS LETTER

The Official Organ of the Office of Horticultural Crops and Diseases, Bureau of Plant Industry, United States Department of Agriculture.

John A. Ferrall, Editor

All material contained herein is CONFIDENTIAL and is not for publication without the prior approval of the Office of Horticultural Crops.

Vol. I. Washington, D. C., August 1, 1929 No. 11

DR. AUCHTER VISITS INDIANA. Doctors E. C. Auchter, Victor R. Boswell and J. H. Beattie spent July 8th and 9th in South Bend and other points in Northern Indiana in conferences and in making a brief tour of some of the centers of vegetable production on muck soils. Dean J. H. Skinner, Doctors Lawrence Greene, H. D. Brown, and others of the Indiana Agricultural Experiment Station, and Dr. J. H. Gourley, of the Ohio Agricultural Experiment Station, were members of the group.

Past and present activities of this office and of the Indiana and Ohio stations relative to vegetable production on muck lands were discussed. A number of pressing problems were gone over with a view to the possible arranging of a comprehensive series of cooperative studies of some of the factors affecting the adaptation of vegetable crops to muck soils. Some of the outstanding problems which were emphasized as needing immediate attention are the control of damage by wind and frost, the determination of specific strains and varieties which are especially adapted to muck soils, and the effect of various factors on the yield and quality of specific crops.

SEEDLING POTATOES IN IOWA. On Tuesday, July 16, Wm. Stuart inspected the seedling potatoes that are being grown at Ames, Kelly and Clear Lake, Iowa. First year seedlings on typical corn belt area soil at Ames were only about half as large as those of the same parentage and age which are being grown on muck soil at Kelly. As is usually the case, some lots of seedlings are very much more vigorous than others of different parentage. Both lots have received equally good cultural care, therefore the differences in behavior of the seedlings are probably all due to heredity. The older seedling potatoes from both Minnesota and Presque Isle, Maine, which are being grown on muck soil at Clear Lake, have in almost every instance made a satisfactory growth. A few lots were noted which contained a considerable number of leaf-roll plants. Commercial fields in the Clear Lake section give promise of a good yield.

CRANBERRY FLOODING PROBLEMS. "H. F. Bergman leaves today for New Jersey," writes NEIL E. STEVENS, "nothing more can be done on his flooding problem until the frost reflows come this fall. He is trying to devise some test by which a cranberry grower can tell when the oxygen in his flooding water gets so low that there is danger of injuring the cranberry buds. For this purpose he is using fish, chiefly yellow perch, with the hope that the time the fish come to the surface for air may serve as an index of the danger point."

YEAR'S BEST FISH STORY:

"Getting the fish for this work has presented some amusing difficulties," continues Mr. Stevens. "It is against the law to fish here without a State license and we were not sure that a two dollar charge for a fishing license would look well on an expense account. The small boys of the neighborhood provided the fish at 5 cents each until July 4th came when they lost their interest in money. Finally we had to take one of the workmen off the job of cleaning out ditches and send him fishing!"

MISCELLANEOUS NOTES.

Mr. Stevens also reports that the experiments with the transmission of false blossom by insects are showing up beautifully. These plots which were exposed to Euscelis (the blunt-nosed leaf hopper) from infected bogs are badly diseased, all the other insects which were tried get a clean bill of health except a black bug which has not been named yet, but which is still under suspicion.

"The Sclerotinea disease of blueberries (mummy berry)," he adds, "which is so bad in New Jersey this season and which took half the crop here last year, is of very little importance this year in Massachusetts. Only about ten of the Coville seedlings show more than a few infected berries. We take the presence of large number of mummy berries this year to indicate extreme weakness and are digging such bushes out."

PRESQUE ISLE, MAINE. "The recent warm weather which has followed a rather prolonged period of wet weather has been very favorable for the growth of crops," writes Charles F. Clark, associate horticulturist. "The potato crop is in excellent condition and the prospects at the present time seem favorable for a good yield.

"The farmers are very busy now with the final horse-hoeing and spraying of the potatoes. Haying is also in progress on many farms. A good crop is being obtained in spite of some winterkilling of the clover which resulted from the light fall of snow. The seedlings and commercial varieties of potatoes in our experimental plots are developing very rapidly and the work of taking notes and crossing will be started within a few days.

"Dr. A. E. Longley, of the Biophysical Laboratory, Bureau of Plant Industry, who is cooperating with this office in the study of the cytology of the potato, has arrived in Presque Isle to continue the work which was started last summer.

"Dr. Verplancke, of Belgium, who is studying potato diseases in this country, is now at Presque Isle, where he is conducting investigations relating to the virus diseases."

PEACHES VS. ROAST BEEF. "Which would require the larger piece of ice to keep it cool, a 10-pound roast of beef or 10 pounds of ripe peaches?" asked a recent Clip Sheet Release of the Department. "Most people would think this a silly question and would answer that the meat demands better refrigeration. That, however, is not precisely the question. Once the meat is thoroughly cooled the only task for the ice in the refrigerator is to absorb the heat that may leak in from the warmer outside air. If the temperature is low enough to prevent decay or mold formation, the meat, not being alive, creates no heat within the refrigerator.

"The peaches, as a rule, present a different case. They are living. Physical and chemical changes are in progress. The fruit is respiring. It is taking up oxygen and is liberating carbon dioxide and water formed by the oxidation of its sugars. This chemical process is accompanied by a production of heat, and the heat would melt some ice in the refrigerator which would not be melted if the meat roast were substituted and kept at the same temperature as the peaches."

NOTES FROM GREELEY, COLO. "Crops in general throughout the Greeley district are looking well this year, especially alfalfa, grain, beets, and beans," reports W. C. Edmundson. "The potato crop does not look especially promising this year. The stands are quite poor. I think these unsatisfactory stands are due largely to the continued hot weather. Much of the seed has rotted, due to fusarium infection, and, as is known, this infection is much more prevalent with high soil temperatures. I do not believe the average field has better than a fifty per cent. stand. Of course, some potatoes are still germinating and this may be improved upon by many of the potatoes which are now sprouting which were planted a month ago and producing weak plants.

"Growers of early potatoes will begin harvesting their crop in the next week or ten days. Some of the potato growers have excellent crops of early potatoes this year, while many other growers of early potatoes will have very low yields.

"The flea beetle is very bad again this year, and we are trying to control it with sprays. The cabbage lots are looking very promising at this time and I hope we will be able to secure good results."

AROOSTOOK FARM NOTES. "Work on Aroostook Farm is progressing very satisfactorily," writes P. M. Lombard. "Our plots have been sprayed three times with Bordeaux mixture and once for bugs. Vine growth has been very rapid following the early rain this month. Many fields are quite far advanced in bloom, the Green Mountain variety being a very early bloomer this year.

"Spraying operations have been in progress for some time, some growers having put on the third application of Bordeaux mixture. Haying operations have just begun and a bumber crop is expected to be harvested.

"Mr. E. L. Newdick, Chief of the Bureau of Seed Improvement, Augusta, Maine, was on the Farm Monday, organizing the inspection service. Field work began Tuesday, July 16. The crew is amaller than usual, due to the small acreage entered for certification.

"Mr. A. M. Schule, in charge of the fertilizer inspection work, has been in this section for several days checking up on complaints of growers from the use of certain grades of fertilizer."

ADMINISTRATIVE - SPECIAL NOTICE

It is requested that vouchers for supplies and materials (Form No. 1034) as well as for personal services (Form No. 1013-d) hereafter be accompanied by carbon copies prepared on the yellow forms (Form No. 1034-a and No. 1013-e) intended for that purpose.

An agricultural life is one eminently calculated for human happiness and human virtue.

- - -Josiah Quincy

EDITORIALLY SPEAKING

By John A. Ferrall.

It is perhaps just as well to make no boasts--nor promises--in taking over the editorial work. After all, editors do not differ very much from other Horticultural--or--activities. "By their fruits ye shall know them."

BELIEVE IT OR NOT!'

It is a very old story, of course, but the fact is that a certain investigator found himself in a remote district taking field notes when a terrific rain storm came up. He sought shelter under a nearby tree, but soon found that this was offering but little protection from the rain. Looking around in desperation, he spied a large hollow log. Into this he crawled without loss of time, congratulating himself on his good luck.

The rain, however, kept up for a considerable period. The log became water soaked and began to shrink, so that when our friend tried to crawl out, once the rain had stopped, he found to his dismay that he was stuck fast in the log! He tried in vain to wiggle out. He called for help, though he knew in this out-of-the-way place no one was apt to be passing. Finally, exhausted, he gave himself up for lost.

As the average man does when he faces a situation that appears likely to result in his death, our friend found himself rapidly reviewing the incidents of his life--his sins of omission as well as commission. And then he remembered how often he had failed to have his subvoucher receipts prepared carefully--and how often he had failed to secure them at all. He saw the numerous occasions on which he had failed to send in the carbons of his transportation requests promptly. He remembered that he had occasionally neglected to send in itinerary reports.

Chagrin overcame him, to become even keener when he recalled that he had failed consistently to send to the NEWS LETTER the little notes and comments on his work that are so much needed to make the paper interesting and helpful to his associates. Humiliation completely overcame him--and

BELIEVE IT OR NOT, he felt so small that he was able to crawl out of the log without difficulty!

IN A LIGHTER VEIN.

You Never Can Tell 'Til You Try! --Apropos the burden of work and responsibility falling to his share in connection with the re-organization of clerical work, one of our employes has been reminded of the story of the old colored man down in Georgia who had suffered most of his life with rheumatism and could scarcely hobble along.

One day the younger folks persuaded "Pappy", as he was called, to go with them on a bear hunt. They found the bear allright, but he turned on the dogs and the hunter, and both immediately took to their heels, the young folks forgetting all about Pappy. Arriving home out of breath they presently thought about him.

"Whar's Pappy? Has anybody here seen Pappy?" they inquired.

"Oh, yes," was the answer. "Pappy's don' been here long time. Why, he come home wid de dogs!"

Yes, indeed, it is surprising what one can do when he has to.

But, Speaking of Efficiency.-- In the matter of eliminating waste and utilizing products to the best advantage, they are telling the story of a young lady who went with a party of visitors to see the operations of a large lumber concern. She listened attentively to the expert's recital of how the work was handled.

"Of course," he said, "we make the larger logs into lumber and the smaller ones into fence posts and such things right here at the mill."

"Yes," she said, smiling her understanding. "I suppose you waste nothing at all. What becomes of the small limbs of the trees when the trunks are made into lumber?"

The expert did not hesitate for an instant.

"We handle those at our branch offices," he said.

Consider the Hammer!-- It keeps its head; it doesn't fly off the handle; it keeps pounding away; it finds the point and then drives it home; it looks at the other side, too, and thus often clinches the matter; it makes mistakes, but when it does it starts all over again; and it is the only knocker in the world that does any good.

If you are inclined to lose your head or fly off the handle, consider the hammer!

Fruit Handling Experiences.-- The customer was complaining to the fruit dealer about some apples she had purchased the day before. "They were rotten," she declared. "I was going to bring them along to show you, but I forgot--"

"It really doesn't matter," the dealer assured her, seeking to be polite. "Your word is just as good as the apples!"

PERSONNEL ITEMS.

W. R. BEATTIE, extension horticulturist, together with Dr. W. J. Spillman, is delivering daily broadcasts on the National Broadcasting Company's noon-hour programmes which cover the entire United States from the Rocky Mountains eastward, including 31 States. These broadcasts consist of timely items including a wide range of subjects and especially items of news interest such as the progress made in the Mediterranean fruit-fly campaign, etc. The NEWS LETTER plans to use in future issues summaries of some of these talks which deal with items of horticultural interest.

W. A. WHITNEY spent a week beginning July 22 at points in Maryland investigating bean diseases.

FREEMAN WEISS will be located at Boyce Thompson Institute, Yonkers, N. Y. for about two months, where he will be engaged in the study of diseases of ornamental bulbs.

W. J. ZAUMEYER reports from Twin Falls, Idaho, that curly top of beans was estimated at 18% in some fields of Great Northerns, and in test plots as much as 7% in certain varieties. Dr. Zaumeyer also reports mosaic prevalent in both Colorado and Idaho.

CHARLES E. SANDO, in charge of phytochemical investigations, returned to Washington late in July after seven weeks' travel in California, Oregon, Washington, Idaho and Montana. The object of this trip was to visit fruit-handling establishments, experiment stations and others interested in the fruit industry with a view to acquiring information pertaining to food research investigational work and also to conduct a series of field experiments with different varieties of apples in their development of natural waxy coating.

Among the men and places visited were Mr. E. M. Chace and his associates at the fruit and vegetable laboratory, Los Angeles, California; Prof. W. H. Chandler and Prof. W. V. Creuss at the University of California; Dr. J. R. Esty of the National Canners' Association, Berkeley, Mr. G. F. Mason, superintendent, H. J. Heinz Company, Berkeley; C. F. Kinman and M. N. Wood, Horticultural Crops and Diseases, Sacramento; H. A. Jones, Division of Truck Crops, University of California at Davis, California; the Fruit Disease Laboratory, Horticultural Crops and Diseases at Wenatchee, Washington; Dr. J. R. Magness, Pullman, Washington; and the Montana State College of Agriculture, Bozeman, Montana.

A paper entitled "Progressive changes in the ether soluble apple surface constituents during maturation and storage and a possible relation to storage scald," was presented at the Berkeley meeting of the American Association for the Advancement of Science held at the University of California, June 19-22, and also at Bozemann, Montana, where the Twelfth Annual Meeting of the Northwest Association of Horticulturists, Entomologists and Plant Pathologists was held, July 17-19.

At Wenatchee, Washington, field experiments on apples were started and samples of 13 varieties of apples were collected, representing a period of growth approximately 50-60 days from blooming. The samples were brought to Washington for further chemical work dealing with the development of natural waxy coating and a possible relation to storage scald and wilting.

KLARE S. MARKLEY visited Geneva and Ithaca, New York, where he sampled a number of varieties of apples in connection with the apple wax work.

DR. VICTOR R. BOSWELL attended a seedsmen's field day at Madison, Wisconsin, last month; members of the station staff opening the day in displaying and discussing results of our bean and pea breeding and selection work. Dr. Boswell will go to Ohio to attend the Seedsman's field day at Wooster August 1, where he will give a talk. The Ohio Experiment Station is holding informal meetings for the seedsmen and growers in the State and showing them around the station to inspect crop breeding and varieties.

C. A. REED, associate pomologist in charge of nut-culture investigations is in Louisiana supervising the construction of buildings in connection with the new pecan station being established near Shrevesport.

L. B. SCOTT, senior pomologist in charge of Nursery stock investigations in the West, came to Washington from Shafter, California, the latter part of July to attend a hearing on quarantine matters relating to fruit tree stocks.

LON A. HAWKINS, principal physiologist in charge of cold-storage laboratory, is expected to return to Washington August 1 from a visit to California and the Pacific Northwest where he has been making arrangements for test trips on the refrigerated transportation of various fruits grown in those sections.

C. E. SCHOENHALS, administrative assistant, is spending the last half of July and the first week of August at Macon, Georgia.

GEORGE M. DARROW, senior pomologist, who has been visiting the raspberry work in Geneva, New York, attending the meeting of the small fruit breeders' of the Eastern United States and Canada at Vineland, Ontario, and inspecting the Viburnum plantings at East Lee, Mass. is expected to return to Washington about August 1.

P. A. YODER, recently of the office of Sugar Plant Investigations, and formerly of the Office of Vegetable and Ornamental Diseases, died July 20.

THE OFFICE OF HORTICULTURAL CROPS AND DISEASES

S E M I - M O N T H L Y N E W S L E T T E R

The Official Organ of the Office of Horticultural Crops and Diseases, Bureau of Plant Industry, United States Department of Agriculture.

John A. Ferrall, Editor.

All material contained in this NEWS LETTER is confidential and is not for publication without the prior approval of the Office of Horticultural Crops and Diseases.

Vol. I. Washington, D. C., August 15, 1929 No. 12

OUR FRUIT INDUSTRY. Discussing "The Status of Our Plant Industries," over the United States Department of Agriculture's noon-hour net-work radio program, Dr. Wm. A. Taylor, Chief of the Bureau of Plant Industry, said, touching on horticulture: "Our fruit industry is so widely varied as to kinds grown and regions of production that accurate summation of its status in a few words is hardly possible. In general, however, it may be said that existing deciduous fruit orchards and vineyards in most of the important regions are ample to provide in normal seasons for the domestic consuming requirements, with generous quantities available for export of such as are desired abroad in fresh, dried or canned form.

"Broadly speaking, the general adoption by fruit growers of the protective fungicides and insecticides which have been developed through the past three or four decades of scientific research has tended to stabilize annual production of most deciduous fruits, so that our markets are rarely bare of them during their normal shipping and storage seasons. This makes possible the inclusion of fresh fruits in the daily diet of our city people throughout the year and tends to steady the market for the grower in contrast with the extreme fluctuation in supply which characterizedthe earlier periods of our commercial fruit industry. Standardization of grade and pack, coupled with freedom from disease and insect blemishes, has resulted in marked improvement in the attractiveness of these products in the market which appeal to the eye as well as to the palate of the consumer. The greatly enlarged use of the motor truck is proving an important factor in the distribution of the higher priced and more perishable of these products which are now easily transported in fresh condition through distances of 100 miles or more without rehandling, where formerly a distance of more than five miles from market or shipping station was a serious handicap.

"The phenomenal increase of acreage of vineyards in California during the past decade has resulted in a production so greatly enlarged as to require the most intensive efforts of the industry to find new

markets and develop additional uses for the product, as well as to accomplish economies in production and transportation.

"Our citrus fruit industries have accomplished during the past season the marketing with fair average returns to the grower of the largest crop of oranges and grapefruit yet produced in the United States. This accomplishment is largely due to the voluntary coordination of shipments through a citrus clearing house in Florida and through the efficient distribution of the C alifornia crop by the cooperatives. The conversion of off grade citrus fruit, especially lemons, into by-products such as citrate of lime, has played an important part. The canning of one million boxes of Florida grapefruit in a year and of nearly half of this quantity in Porto Rico is indicative of recent trends. This makes this popular breakfast fruit available to consumers throughout the year, while the fresh fruit is obtainable in quantity from October to June.

VEGETABLES

"Enlarged and diversified production of many vegetables has been an outstanding feature in recent years. This is notably true with tomatoes for shipment fresh, and for green peas, snap beans, spinach, lettuce, cucumbers and asparagus. Fresh tomato shipments totaled 50,000 carloads in 1928. Green pea shipments totaled nearly 5,000 carloads, spinach more than 10,000 carloads, while lettuce shipments totaled more than 50,000 carloads in 1928. The broadening of the dietary which this enlarged production reflects is a matter of large importance, especially in our urban population.

"Production of potatoesand sweet potatoes continues in the several producing regions on about the largest scale justified by the consuming demand, more care in the selection and care of seed stock constituting a striking recent feature. The production of certified seed potatoes, which has increased from about 300,000 bushels in 1917, to nearly 9,000,000 bushels in 1928, is a significant item in the production records of this crop."

GREELEY, COLORADO. "The past month has been hot and dry," reports W. C. Edmundson, horticulturist. "But .41 of an inch of rainfell and .15 of an inch was the heaviest rain recorded at the station. Crops in general, however, give promise of maximum yields. The late potato crop seems to be the only one that does not look especially well at this time. As previously reported, there is a poor stand of late potatoes in the Greeley district, due to seed decay. The early potato crop is now being harvested. Most of the first shipment started at $3.00 per cwt.; later it dropped to $2.50. The market is little stronger at the present and growers are harvesting their Triumphs. Early Ohios and Irish Cobblers have already been harvested. Grain is ripening rapidly and some fields of barley have already been cut."

STUDYING SEED POTATO STOCK.

The latter part of July was spent by Wm. Stuart, senior horticulturist, in studying seed potato stock and fields in the State of New York. Representative sample lots of 1928 certified seed potatoes are being grown under Dr. Fernow's supervision at Ithaca. This affords him an opportunity of studying the behavior of this stock prior to the inspection of potato fields planted with this seed that are entered for certification. In general the quality of the seed stock was good, but here and there sample lots could be detected which contained too large a proportion of disease to warrant even a first inspection.

An automobile trip on the 23d and 24th of July with Drs. Myers, Livermore and Hardenburg of the College of Agriculture, afforded Mr. Stuart an unusually good opportunity to study the behavior of several promising selections of the Green Mountain variety and to note the behavior of first and second eye stem-end seed pieces in comparison with those from the seed end which were being studied on the farm of Daniel Dean, Nichols, New York. It was somewhat of a surprise to note the rather general excellence and freedom from disease of Green Mountain fields in the central and northern part of the State.

A brief inspection was made of some twenty Department seedling potatoes that the Rhode Island Experiment Station is testing on the station farm. Owing to drought and high temperature the earlier maturing seedlings were found to have made a much more satisfactory growth than they normally would have done.

The week of July 26th to August 2d was spent at Presque Isle, Maine, where several thousand potato blossoms were pollinated in order to produce a large supply of seed for distribution to State Experiment Stations engaged in a cooperative seed potato improvement program with this office. The general conditionof the potato crop in Aroostook County, Maine, is very promising provided sufficient rain falls during the next three weeks to permit of the plant food in thecommercial fertilizer going into solution. The growers in this region are optimistic as regards yields and prices. An early market demand at good prices is expected and it is quite probable that a considerable movement of Irish Cobbler table stock will be under way prior to August 20.

A brief visit and inspection of a potato field at St. Albans, Vt. which had been planted with Prince Edward Island seed stock was made on August 3. It disclosed the fact that it was practically free from disease but that heat and drought had resultedin some injury to the plants. There is a possibility that the yield may be cut twenty-five per cent.

It may be of interest to note that a large percentage of the Green Mountain acreage entered for certification this season is being rejected on first inspection on account of too high percentage of virus diseases.

STRAWBERRY DWARF. In Great Britain a lively controversy is being waged as to whether the disease of strawberries variously known as Red Plant, Cauliflower Disease, etc., is caused by a root-infesting fungus, by nematodes, or is a virus disease. In this country a similar divergence of opinion exists regarding the cause of the strawberry disease common throughout the South and called in various places Dwarf, Crimp, Frenching, etc. The suspicion is gaining considerable headway that the disease in Great Britain may be the same as the one in this country, and so far as the workers in the Fruit Disease Section of the Office of Horticultural Crops and Diseases are concerned, they are about ready to say that the root-infecting fungi which we have especially studied probably have nothing to do with the disease.

CHADBOURN, NORTH CAROLINA. The Fruit Disease Section reports that the new laboratory at Chadbourn was occupied August 1. This is a six-room bungalow located on North Carolina State Route 20, just at the edge of the town of Chadbourn, near Whiteville. The largest room is a general laboratory. Connecting with this is a general office, and there are four smaller rooms, two at present assigned to Entomology, one to Chemistry and Soils, and one to Plant Industry. These small rooms may be considered as offices, laboratories, or studies, according to the pleasure of the occupant.

190,000 REFRIGERATOR CARS HAUL PERISHABLES TO MARKET. This is the eye-catching headline of a recent Clip Sheet release by the Department's Press Service, based largely on an interview with Dr. Lon A. Hawkins, leader of the fruit and vegetable handling, transportation and storage project of this office. Railroads in the United States transported about 1,500,000 carloads of perishable commodities last year. The great industry of shipping and storing perishable food products, as Dr. Hawkins points out, has developed largely within the last 40 years. Refrigeration, including cold storage and the refrigerator car, is primarily responsible for the variety of fresh food now available for the American table at all seasons of the year.

The system is not yet perfect, of course. Last year American and Canadian railways paid nearly $11,000,000 in claims on perishable products but this does not appear excessive considering the 1,500,000 carloads handled. It is believed that mechanical equipment that would create ideal storage conditions in a moving car might be possible, but it would be expensive to install and operate. And the cost factor must always be taken into consideration in the commercial handling and marketing of produce. However, Dr. Hawkins is optimistic regarding the situation. "Usually," he says, "where a real demand for a commodity exists which, for climatic reasons, cannot be produced near the market, some method will be devised for transporting it to that market."

EDITORIALLY SPEAKING.

BY John A. Ferrall.

WHY IS A NEWS LETTER, ANYWAY?

The aim of this particular NEWS LETTER is easily stated: It tries to be, like the organization it seeks to represent, an instrument of service. Above all, it wishes to help you--to make your work easier, to make it more effective, and to make it more interesting. It tries to be instructive as well as informative--to show you what your office is doing, what it has accomplished in the past, and something of its aims for the future. It will endeavor to keep you in prompt touch with those official orders and announcements important in connection with the handling of your work. The make up of the NE WS LETTER will be modified from time to time, of course, as conditions require, and suggestions are always welcome--and that includes criticism as well as praise.

Starting with this issue, we are printing extracts from popular radio talks on matters of horticultural interest, believing that these will be an effective means of placing before our personnel items of general interest in connection with the work of the office and horticulture in general. Later, if space permits, we shall print a general statement concerning the work of the office as a whole, to be followed perhaps by summaries of the activities under the various projects. The idea back of all this is to so familiarize the personnel with the various activities of the office that investigators will be able to recognize data which, though not bearing on their particular work, may be of value to their co-workers in the office.

COPY FOR THE NEWS LETTER.--Do not bother to remember dates. Whenever you receive your copy of the NEWS LETTER it is time to be getting material ready for the next issue. Send in items at any time and they will be used as opportunity offers. Copy for the issue of the first of the month is usually sent to the administrative officers for approval about the 24th; that for the issue of the 15th about the 9th. Copy received too late for an issue will be used in the next if not entirely out of date.

An effort is made to get the NEWS LETTER out promptly on the 1st and 15th of the month but this will not always be practicable--especially during the summer vacation period when we are short of office help at Washington.

THE COMPTROLLER GENERAL has ruled that beginning July 1, 1929, all rentals of telephones must be covered by contracts prepared on the new form designed by him for that purpose. If you have not already submitted such contracts covering telephone rental at your field station or laboratory, please write immediately to Mr. R. K. SWARTZ, Horticultural Crops and Diseases, Bureau of Plant Industry, Washington, D. C., for the necessary blanks.

REQUESTING BIDS.--There has been some complaint by bidders that we do not allow them sufficient time to prepare and submit quotations. To avoid this criticism as much as possible in the future, employees who may need to ask for bids are urged to try to forsee their need in sufficient time to give bidders ample time to prepare quotations. In this connection, attention is also called to the fact that where the time for delivery is important it is necessary to do more than merely fix a date. A separate paragraph must be added to the specifications on the bid form emphasizing the fact that the time of delivery is important and will be considered in making awards.

ELECTRICITY, GAS, WATER.--All service of a regular nature of this type must now be supported by a schedule of rates charged by the company furnishing the service, together with a letter from the company to the effect that these rates are to be the basis of charges made against the Government for services rendered. Both the schedule of rates and the letter are to be sent to us IN DUPLICATE. This is important, since unless these papers are on file in the General Accounting Office, vouchers covering charges for such service will not be paid.

CONTRACTS.--Delays, extension of time. Thereis no authority under the standard Government contract for administrative officers to grant extensions of time because of delays in completion of work. Any adjustment of time for performance required on account of extra work or changed conditions is not for settlement as an extension of time.

LEAVE OF ABSENCE--MILITARY.--An employee of the United States who is a member of the National Guard and also of the Officers' Reserve Corps may be granted leave of absence as a member of the National Guard under section 80 of the national defense act of June 3, 1916, 39 Stat. 203, and also as a member of the Officers' Reserve Corps under the act of May 12, 1917, 4o Stat. 72.

NEW GENERATION TRAPPERS USING PERFUME!

Employees of the Department in Washington have been puzzled somewhat by the appearance in public gardens and private yards of something resembling a combined milk bottle and old-fashioned lantern. These are really Japanese beetle traps and have attracted the attention of the POPULAR SCIENCE MONTHLY which, in its issue of September, says: "One of the queerest trap lines in the world has just been laid in the District of Columbia. The trappers are Government experts of the Department of Agriculture, fighting the destructive orchard pests, Japanese beetles. Baited with extract of geranium, the "catnip" of the beetles, the traps attract the insects, which fly against a piece of tin, are stunned and fall into a fruit jar or other receptacle fastened below. It is not an unusual sight to see almost a quart of beetles in a trap at the end of the day. The Japanese beetle cannot be eradicated by poisoning. When a tree is sprayed, the crafty insects fly to one that has not been treated and won't return until rain has washed away the poison!"

LETTERS OF AUTHORIZATION -- SPECIAL.

Please anticipate your needs for letters of authorization as much as possible. At least FIVE DAYS notice in advance of the date authorization is to become effective should be given, dating from the time the request is received in this office. Rush requests for letters of authorization greatly increase the office work by interrupting the routine and by requiring special follow-up attention.

Consider the course of one of these rush letters of authorization: The preparing clerk is required to lay aside her regular work regardless of its importance in order to prepare the rush letter of authorization. It is then sent by special messenger to the head of the office for approval, where it must be given immediate attention to the exclusion of other important matters. It then goes to the Bureau administrative office for entry and examination from an administrative standpoint; then to the Bureau office of accounts for examination from the fiscal standpoint; back to the office of the Chief of Bureau for his signature; then again to the office of accounts where the messenger must await the issuance of necessary transportation requests.

In this way, to insure the handling of this one rush authorization prompty, it is necessary to interrupt the regular work of the clerk preparing authorizations, the head of the office, the assistant in charge of accounts for the Bureau, the administrative clerk of the Bureau who handles authorization, and the secretary to the Chief of Bureau. Consider, then, that on one day recently SIX requests for such rush authorizations, to take effect the following day, were received in this office and you can imagine the interruptions which these caused and the extra work made necessary in handling them! As such interference with the regular work of the office directly affects the efficient handling, and prompt handling, of pay-rolls, reimbursement vouchers, supply requests, etc., you can understand that your cooperation in reducing such rush requests to the absolute minimum will redound to your own advantage in the better service you will receive.

We believe that in nearly every case the necessity for a letter of authorization can be forseen in sufficient time to give us FIVE DAYS ADVANCE NOTICE. Occasional inability to forsee travel needs is recognized, and in such instances we will be glad to do everything possible to expedite the preparation of the authorization, BUT EACH REQUEST FOR SUCH RUSH LETTER OF AUTHORIZATION MUST IN FUTURE BE ACCOMPANIED BY AN EXPLANATION SHOWING WHY IT WAS NOT POSSIBLE TO GIVE US THE USUAL FIVE DAYS ADVANCE NOTICE.

OVER THE RADIO.

(Broadcast by W. R. Beattie, extension horticulturist, inconnection with the National Broadcasting Company's noon-hour program.)

FARMING UNDER PAPER. No doubt many of you have read reports concerning the use of paper mulch for the growing of garden crops. "Farming Under Paper", as it is oftencalled, has been practiced by the pineapple growers of Hawaii for a number of years, and mulching has been found quite successful for the growing of pineapples.

The United States Department of Agriculture has for the past three or four years been experimenting with the different brands of paper used for mulching purposes. Recently, Dr. L. H. Flint and Mr. Ross C. Thompson, of the Bureau of Plant Industry, visited the State experiment stations and private growers throughout the eastern United States to ascertain what benefits, if any, these investigators and practical users have been able to get from the use of paper mulch.

After making the rounds and looking the situation over, both Dr. Flint and Mr. Thompson agree that the paper is advantageousunder certain conditions. One gardener had used the paper on part of his celery crop and was marketing cel ery from the papered portion, whilethe unpapered portion was not yet ready to market. Observations indicate that the paper mulch gives excellent results with all of the vine crops, especially cucumbers and muskmelons. In one of the experiments, a piece of mulch paper about a yard square had been placed around each hill of muskmelons and these showed a decidedly better growth than the hills to which no mulch had been applied.

One objection to the use of paper mulch is the expenses, and its use is probably not warranted except on crops that give a high acre return or where the yield is very considerably increased. Experimental evidence to date indicates that the paper mulch has its greatest possibilities in home gardens and on vegetables or other crops that give an extremely high acre return. At present, however, Dr. Flint and other Department workers feel that experimental work with paper mulch has not been carried far enough to make definite conclusions possible.

AND GARDENING UNDER GLASS. According to reports in English newspapers, about 1,000 acres of glass structures are now being used in England for the production of tomatoes and cucumbers. The greenhouse vegetable industryis not only increasing in England, but also in Holland, Belgium and other European countries. We have in the United States from 1200 to 1500 acres of glass devoted to the growing of tomatoes, cucumbers, lettuce and other vegetables, mostly during the fall, winter and spring months, and chiefly in the northeastern States--from Chicago eastward, or near the great consuming centers.

IN A LIGHTER VEIN.

THERE IS AN old story to the effect that a certain man complained to his dealer about the careless manner in which the latter crated his chickens. "Take that last lot of chickens you sent me," said the customer. "The crate arrived in such poor condition that it broke when it was unloaded at my place and the chickens escaped. Although I spent almost the entire morning chasing them, I was only able to catch 11." The dealer smiled. "I think you did very well," he said. "I only sent 6 chickens in the crate."

The Office of Horticultural Crops and Diseases had apparently almost equalled this record lately when a representative who had been supervising the planting of a number of palms at an experimental tract came to Washington with a planting diagram that showed 1002 palms set out. The shipping order revealed that only 986 had been sent! However, an investigation revealed the fact that a number of small side offshoots had broken from the larger palms on the long freight trip from Washington, and these had been planted and listed along with the 986.

A lowly bean in the garden grew,
It cracked the mold and it sipped the dew,
And it stretched its tendrilshere and there,
As it puffed and panted, "Gimme air!"
From a sprout to a plant, from a plant to a bush,
From a bush to a vine, with thrust andpush,
It twisted and turned and blossomed and bore
The loveliest beans that you ever saw.
Then it boasted aloud to the Hubbard squash:
"I, too, once sprawled in the mud, but gosh!
I had ambition! I had a soul!
I used my bean--I discovered the POLE!

---The Fun Shop.

ANOTHER FARM "PROBLEM".--The Valley Farmer of Mercedes, Texas, prints this one: "A school teacher once received a note like this: 'Dear Mum--Pleze excuse Johnny today. He will not be at school. He is acting as timekeeper for his Pa. Last night you gave him this problim: If a field is four miles square, how long will it take a man walking three miles an hour to walk 212 times around it? Johnny ain't no man, so we had to send his Daddy. They left early this morning and my husband said they ought to be back late tonight, though it would be hard going. Dear Mum--Pleze make the nixt problim about ladies as my husband can't afford to lose the day's work. The Lord knows I don't have no time to loaf, but I can spare a day off occasionally better than my husband can.'"

SHORT STORY.--Once upon a time there was a man who patted a strange dog on the back to see if it was affectionate. It wasn't.

PERSONAL MENTION.

NOTICE TO SCIENTIFIC STAFF.--In view of the recent consolidation of the business offices of Horticulture, Vegetable Diseases, Crop Physiology and Breeding, Fruit Diseases, Laboratory of Plant Pathology and Plant Physiology into one office, and the appointment of Mr. R. K. Swartz as head clerk of that office, you are requested to address hereafter all communications and accounts formerly sent to the head clerks of the units mentioned, to Mr. Swartz for attention.

----- E. C. AUCHTER

DR. E. C. AUCHTER attended the summer meeting of the Maryland State Horticultural Society at Salisbury, Maryland, August 1 and 2, and later visited several commercial orchards in Delaware.

L. L. HARTER is on a two-weeks trip (August 7-21) to points in Vermont, New York and Michigan for the purpose of investigating bean diseases. Dr. Harter will examine the seed fields of commercial growers, canners, and some of the bean experimental plots at the stations visited.

T. P. DYKSTRA has been traveling through Oregon for the past ten days, making observations on the curly top diseases of vegetables and potato virus diseases.

W. A. WHITNEY spent August 6 in the vicinity of Walkerton, Va. investigating bean diseases.

D. N. SHOEMAKER and LOUIS C. C. KRIEGER spent the early part of last month at the Peninsular Experiment Station, Sturgeon Bay, Wis. securing records of pea variety tests.

W. C. EDMUNDSON of the Greeley, Colorado, station reports that PROF. B. S. PICKETT of the horticultural department of the Iowa Agricultural College and four horticultural students from that institution visited Greeley the latter part of July. Prof. Pickett is conducting an educational tour through the western states and plans to return to Iowa when college opens in the fall. The boys were much interested in the irrigation methods used in the Greeley district.

Mr. H. O. WERNER of the horticultural department of the Nebraska Agricultural College, and his student assistant also paid a visit to the station early in August.

EDWARD M. SAVAGE, assistant plant breeder, has been temporarily loaned to the Plant Quarantine and Control Administration for duty in Lake County, Florida, in connection with the campaign against the Mediterranean fruit fly. Mr. Savage's wide knowledge of this section of Florida, and his familiarity with the location of out-of-the-way groves and plantings, is expected to make his services of unusual value.

CHARLES F. SWINGLE, assistant pomologist, has an interesting article in the National Geographic Magazine for August, 1929, dealing with the botanical exploration trip to Madagascar which he made in 1928 in company with Prof. Henri Humbert of the University of Algiers. The article, entitled "Across Madagascar by Boat, Auto, Railroad and Filanzana," is illustrated by many striking photographs. It was on this trip that Dr. Swingle secured the almost extinct rubber plant, Euphorbia intisy. This plant, it will be recalled, yields such a high quality of rubber that practically every plant of rubber-bearing size was exterminated by the natives in their efforts to secure its high-priced product, a modern instance of killing the goose that laid the golden eggs.

PROF. G. WEIDMAN GROFF, collaborator, and Mrs. Groff, sailed from San Francisco, California, August 2, for Canton, China, where he will resume his dutiesas director of the college of agriculture at Lingnaam University. Prof. Groff has served for many years as collaborator in this office, and is expected to continue to help us in securing material of citrus--especially species and wild relatives that give promise of being resistant to boron injury.

The Phytopathological Summer Program at Raleigh and other points in North Carolina, was attended by M. B. WAITE, JOHN W. ROBERTS, NEIL E. STEVENS, E. A. SIEGLER and F. C. MEIER. Dr. ROYAL J. HASKELL of the Plant Disease Survey of the Bureau of Plant Industry also attended. These men report an interesting and instructive trip. The first day in the vicinity of Raleigh was mainly devoted to fruit diseases and nutritional diseases of plants, the second day to tobacco and cotton diseases, and the third to the Sandhill peach district from Cameron to Hamlet. Peach bacteriosis and winter injury of various types were conspicuous peach diseases observed in this section. The neglect and abandonment of the orchards due to these troubles and still more so to economic conditions was one of the striking features noted on the three-day trip.

P. M. LOMBARD of Presque Isle, Maine, reports that Mr. B. E. Brown, senior biochemist of the Soil Fertility Division of the Bureau of Chemistry and Soils, arrived early in the month to take notes on fertilizer experiments in Mapleton and on the Aroostook Farm. "B. E.", by the way, when connected with the Bureau of Plant Industry's scientific staff, was one of the "stars" on its bowling team.

ADMINISTRATIVE --- SPECIAL

In future it will be necessary to submit all itinerary reports in DUPLICATE; and all automobile reports in TRIPLICATE. Please make careful note of this--it is important.

THE OFFICE OF HORTICULTURAL CROPS AND DISEASES

S E M I - M O N T H L Y N E W S L E T T E R.

The Official Organ of the Office of Horticultural Crops and Diseases, Bureau of Plant Industry, United States Department of Agriculture.

John A. Ferrall, Editor.

All material contained in this NEWS LETTER is confidential and is not for publication without the prior approval of the Office of Horticultural Crops and Diseases.

Vol. I. Washington, D. C., September 1, 1929 No. 13

FISHER HONORED. D. F. Fisher, senior pathologist, in charge of the United States Fruit Disease Laboratory at Wenatchee, Washington, was elected president of the Northwest Association of Horticulturists, Entomologists and Plant Pathologists at the recent annual convention held at Bozeman, Montana.

"Mr. Fisher has been located here for a dozen years," says the Wenatchee report of his election," conducting laboratory and field experiments on plant diseases. He has done very extensive work in connection with mildew control, crown rot, scald, brown rot, and other fruit or tree diseases, and also is credited with having materially contributed to the development of oil paper wraps as a means of preventing the spread of decay among apples in storage. The oil wrap has lengthened the average life of apples in storage from one to three months, it has been estimated, a very important factor in increasing the value of the fruit.

"Recently Mr. Fisher has been studying the perennial canker and similar tree diseases. While he makes his official headquarters at Wenatchee, his work often takes him to the Coast, to Hood River, and other parts of the Northwest. He has been both secretary and president of the local Rotary club, of which he has been an active member since its organization."

Dr. J. S. Cooley, senior pathologist, in charge of the Fruit Disease Field Laboratory at Hood River, Oregon, and Dr. Paul Miller also attended the Bozeman meeting, where some 70 technical workers were in attendance. Two papers were presented from the Hood River laboratory: "The Distribution of Perennial Canker of the Apple and Some of the Factors Concerned," by J. S. Cooley; and "A Promising Wound Dressing," by J. S. Cooley, J. H. Crenshaw, and P. W. Miller. The second paper was presented by Dr. Miller.

PRESQUE ISLE, MAINE. "We have had very good weather during the past two weeks," reports P. M. Lombard. "The soil is rather dry, and early varieties of potatoes as well as grains are maturing rapidly. Some grain has been harvested, and a few cars of Irish Cobbler potatoes have been shipped. Considerable stock has already been harvested and the Atlantic and Pacific Vegetable Company began shipping potatoes on August 26. Only two fields have been reported as badly affected by Late Blight, though we have considerable Early Blight this year on potatoes and aphids are getting to be very plentiful.

"The Annual Field Day was held August 14, on Aroostook Farm with a record attendance--717 automobiles were counted! The attendance was estimated at between 3,000 and 3,500. The principal speakers were Commissioner of Agriculture, Frank P. Washburn, and Senator Snow."

VITICULTURAL INVESTIGATIONS. "It is interesting to note," writes George C. Husmann, pomologist, "That at the cooperative testing plot at Shafter, California, the Panariti, one of the currant grape varieties introduced by the Department, ripened and was harvested the latter part of July, while at the experiment vineyard near Fresno, California, it was ready for harvesting and curing some two weeks later, at which time two vines, heavily laden with fruit in the varietal vineyard on the Arlington Farm at Rosslyn, Virginia, were also ripe.

"Carload grape shipments were made early in August from the Di Georgio Farms near Weed Patch, California. The early table and juice grape varieties in the Fresno experiment vineyard were just coloring nicely then, and the early vinifera sorts were also coloring at Arlington, This season, then, grape blossoming and ripening time of like varieties was practically the same at Arlington, and Fresno.

"In the Arlington vineyard in 1928, Beta Nos. 1, 2 and 3, Hartford, Ontario, Captivator, and Sunrise were harvested August 30; Portland and Peabody on August 10; Faith and Rockwood on September 5. This year Beta Nos. 1, 2 and 3, Portland and Peabody were ripe by August 2; and Hartford, Ontario, Captivator, Sunrise, Faith and Rockwood, by August 8, indicating an early season.

"In the countries around San Francisco Bay in California, where heavy damage through late spring frosts occurred so that much of the crop will be on second growth shoots, the vintage was some three weeks later than usual

---

A HYBRID BLACKBERRY. A hybrid between the Himalaya and an eastern erect-growing blackberry, resulting from a cross made by Dr. George M. Darrow while in the Army service at Atlanta, Georgia, has been named the "Brainerd" in recognition of the late Dr. Ezra Brainerd's research work on the blackberries. This variety is much like the Himalaya, but is hardier and bears much larger berries.

ARLINGTON EXPERIMENT VINEYARD.

"The harvesting of some 400 grape varieties in the Department's varietal collection vineyard on the Arlington Farm, Rosslyn, Virginia, began August 12, "reports Geo. C. Husmann, pomologist, Viticultural investigations," and by August 16, 34 varieties had been harvested. Detailed notes and sugar and acid determinations are being made of all the varieties. This year varieties are not ripening in their usual order and harvesting them began three weeks sooner than in a normal season, no doubt occasioned by the long continued drought. Records at the Farm show that from June 15 to August 15, there were 30 days inwhich the thermometer registered above 90°F.

"At the dinner given by the Honorable Secretary of Agriculture on August 22 to the Federal Farm Board, grapes were supplied from the Department's Arlington Experiment Vineyard of the following varieties: Blauer Portugieser, Chasselas Dore, Corinthe blanc, Corinthe rose, Foster, Jura Muscat, Lignan blanc, Muscat Hamburg, Panariti, and Sultanina. This is the first time that fruit of vinefera varieties grown out of doors near Washington, D. C. were thus obtainable."

BELL, MARYLAND,--"The heat and drought continue," writes Martin Bilon from the Bell station, "The budding of rose canes had to be discontinued early in August. By budding rose canes of the Multiflora Polyantha variety with hybrid roses after every fourth leaf, and rooting as ordinary cuttings, hundreds of rose plants are added to the yearly distribution. This method is especially valuable at Bell for mass production of rose varieties that will not root by vegetative cuttings.

"The month of September usually gives new growth of rose canes for budding purposes, but the rooting process is very slow in cold frames at that season. This year the secondary growth will be very short and the propagation differences must be met by winter grafting on rose seedlings which may yet gain the necessary size."

STRAWBERRY PLANTING.--From the Bell Station, too, comes the report that there were some 30,000 potted strawberry plants ready to set in the field this season. There are about four acres now in seedling strawberries at Bell; 1-1/2 acres at Willard, North Carolina; while Prof. Schuster has some 21,000 seedlings in the field at Corvallis, Oregon.

SABURO KATSURA, translator of Japanese, writes interestingly of the people he is meeting during his vacation. There is Officer Zulinski, the park policeman, for example. "He sometimes calls at my cottage in crossing the lake," writes Mr. Katsura, "and we have a little talk. He sings 'Sweet Adeline", too, so well. He once set his handcuffs on my wrists, just for fun, and then said he had no key to take them off. He said this as a joke and didn't realize until he began to search his pockets for the key that he actually had left it at home. It was late that night when I crossed over the lake with him to get the key at his home in town."

TEMPORARY APPOINTMENTS PENDING CERTIFICATION.--The Civil Service Commission has again called the Department's attention to the importance of avoiding negotiations with individuals for employment in advance of presentation to and consideration by the Commission of the vacancies to be filled. Whenever you have a vacancy to be filled or contemplate the appointment of additional help, be sure to write Dr. Auchter so that he may ascertain whether the Civil Service Commission has eligibles or not.

TRAVEL IN PERSONALLY-OWNED AUTOMOBILES.--Reimbursement for the use of personally-owned automobiles cannot be allowed unless such use is specifically included in your letter of authorization. And all claims for such use should, of course, be supported by the usual itemized statement showing points between which travel was performed, dates, and distances covered. Where the travel is to points that can be reached by regular transportation lines, the claim should further show that a monetary saving was accomplished through the use of the personally-owned automobile--considering both time and money expended.

READ YOUR LETTER OF AUTHORIZATION CAREFULLY and if it does not seem to cover all your contemplated work and expenses, bring the matter to the attention of your project leader at once. Ask yourself:

1. Is the amount authorized sufficiently large?
2. Is the duration sufficiently long to cover your needs?
3. Does the itinerary cover all the States you will need visit?
4. Is the particular kind of expense which you will need to incur actually provided for in your authorization?

If there is any doubt concerning any proposed expenditure or travel, communicate with your office for advice in order that you may run no risk of incurring expenses which are not definitely authorized.

THE ADMINISTRATIVE FORCE is delighted with your response to its request that all vouchers and itinerary reports be submitted in DUPLICATE, and all automobile reports in TRIPLICATE. The preparation of these extra copies is something of a burden for those of you who do not have typewriters available but the extra copies can usually be made by using pen-carbon and a hard pencil--or the so-called "manifolding" fountain pen, which has a hard point.

FURNISHING NAMES OF DEALERS, NURSERYMEN, ETC.--It is the policy of the Bureau in supplying the names of nurserymen, dealers, etc. to correspondents to add:

> These names are furnished merely as information and this does not imply any recommendation or guarantee of the business standing or financial responsibility of the individuals or firms listed.

EDITORIALLY SPEAKING

By John A. Ferrall

AN OPEN LETTER. Dear Lou: Thanks for your favorable comment on the NEWS LETTER--and thanks, too, for passing along to me Brad's advice that I keep a firm brake on the humor. I realize that it is a ticklish experiment to mix humor in an official organ of this type, but I believe the experiment well worth while.

It has been said that the most futile thing in the world is for a man to wink at a pretty girl in the dark. He knows what he is doing, but nobody else does. I have long felt that the average NEWS LETTER runs this man a close second. Perhaps I have expressed this opinion not wisely but too well. At all events, I suddenly find myself given an opportunity to try out my theories--temporarily! My observations over a period of some twenty years have convinced me that the usual type of NEWS LETTER is not read--and if it is not read, it fails of its purpose no matter how valuable its contents may be. The average NEWS LETTER is a good bit like those people who firmly believe that it is sufficient to be good without bothering to be interesting--but who wonder, at the same time, why they are not more popular.

I believe that a mixture of humor will lead employees to read the NEWS LETTER--employees who would never open it otherwise. If they start reading the jokes, they may read some of the other items. You understand? It is the same theory that prompts the doctor to sugar-coat his pills.

The need which the NEWS LETTER seeks to meet is a very real one. We are anxious to have all members of the office know something about what the others are doing, and the problems upon which they are working. One working on avocado culture will no doubt be interested in fruit transportation and plant physiological investigations. Many other similar examples could be cited. Through the medium of the NEWS LETTER, it is hoped to lead each employee to have a keener interest in the activities of the office as a whole. Of course, the NEWS LETTER is especially valuable in bringing to the attention of all members of the office the Department's general memoranda, rulings and announcements.

"I feel that it is a good thing to have our spirits raised once in a while," writes a generous friend concerning this use of humorous material in the NEWS LETTER. "I believe that if you are permitted to keep this up you will lead us to look forward to the appearance of the NEWS LETTER and it will be read--instead of taking a tailspin into the wastebasket or fire."

---JAF

"An executive," says LIFE, "is a person employed to talk to visitors so that the other employees will have a chance to work."

PACIFIC FOREIGN TRADE COUNCIL MEETING -- SEATTLE, SEPT: 17-20.

The Seventh Annual Convention of the Pacific Foreign Trade Council is to be held at Seattle, Washington, September 17-20, 1929. Members of the staff of Horticultural Crops and Diseases who are to be in Seattle at that time and whose work will permit their attendance at the meetings, should advise Dr. Auchter immediately. Authority will then be secured from the Secretary for their attendance.

The Vice-President of the Council writes to the Secretary of Agriculture in part as follows:

"----The Agriculture Department has always accorded us hearty cooperation. .....Each year representatives have rendered valuable assistance to our business men through the Trade Advisor Service of the Convention. Your cooperation again this year would be greatly appreciated. I realize that it may be difficult to spare from the Department as many men as we would be glad to have attend the meeting. However, the attendance of members of your Department in previous years has been so beneficial in meeting the specific needs of the Western business men, that we hope it will be consistent with your plans to authorize the attendance of several of your men this year."

EMPLOYMENT OF RELATIVES.

"In a number of cases recently," says Bureau of Plant Industry Memorandum No. 443, just sent out by Dr. Taylor, "the question has been raised by offices as to the permissibility of employment in the field of relatives by members of our staff, particularly where the contemplated employment is of a temporary character. Generally speaking, the Bureau is unwilling to authorize the employment of family connections, temporary or otherwise, except to meet an emergency. Long experience has clearly shown that such employment frequently leads to criticism alike of the employee concerned and of the Department.

"Hereafter no employee of the Bureau is authorized under his Letter of Authorization to employ members of his family or close relatives where he has any supervision, direct or indirect, over the individuals concerned. Should a case develop where an emergency exists apparently justifying this type of employment, appropriate recommendations should be submitted through the head of office to the Chief of Bureau for consideration.

"Whenever an appointment is recommended by an office of the Bureau where the appointee is a relative of another member of the office with which he will be associated or of anyone having a supervisory relationship to the employee, full information as to the relationship and the conditions under which the appointee will work should be included in the recommendation. Appointments will be recommended only where it is entirely clear that no complications prejudicial to the service are likely to result."

OVER THE RADIO.

(Broadcast by W. R. Beattie, Extension horticulturist, in connection with the National Broadcasting Company's noon-hour program.)

TRACTOR VS. MULE POWER FOR PECAN CULTIVATION. Tractor versus mule power for pecan culture was the subject of an address by Mr. J. M. Patterson, President of the Paper Shell Growers' Association, before the Georgia-Florida Growers' Association at Waycross, Georgia.

The GEORGIA ORCHARD AND GARDEN NEWS, published by the Georgia State College of Agriculture at Athens, Georgia, gives the following points as made by Mr. Patterson: It should be noted that Mr. Patterson has under his observations several thousand acres of pecan orchards and had made an extensive trial with several makes of tractors.

Mr. Patterson says that this is an age of mechanical power in all industries. In more recent years agriculture has adopted mechanical power as a substitute for man and horse power. This shift in power is largely responsible for the shrinking farm population, and at the same time increased production. These facts are quite generally known and accepted. This rapid increase in the use of farm tractors is largely due to the fact that manufacturers have made striking progress in building tractors that are practical, economical and efficient.

In making this comparison between tractor and mule power, Mr. Patterson says that it would have required seventy head of mules to have done the work that was done with five tractors. That it would have required the services of 35 men against 5 men for the tractors. The total average cost per acre for the same work done by mules would have been $1.60 as against 60c per acre for tractor work. Besides the reduced cost of operation, the work was done on schedule time and in pecan culture a fairly definite time schedule must be observed for the various operations. Mr. Patterson's experience will undoubtedly prove of value not only to pecan growers but to fruit and nut growers wherever conditions are such that tractors can be used.

COLORADO POTATO EXPERIMENT STATION.

"Monday, August 19th, was visitor's day at the Colorado Potato Experiment Station," reports W. C. Edmundson. "About 150 farmers visited the station on that day. Among the visitors present were the Weld County Commissioners, L. D. Sweet of Denver, George C. Wheeler, Editor of Western Farm Life, Dr. Webb of the State Board of Agriculture, Professor Benkley of the Horticultural Department of the Colorado Agricultural College, A. L. Nelson, Superintendent of the Dry Land Experiment Station at Archer, Wyoming and County Agent E. O. Johnson.

"The afternoon was spent inspecting the various experimental plots at the station. The experimental work for the control of the potato flee beetle was discussed by L. B. Daniels, Assistant Anamologist of the Colorado Agricultural College. Mr. Schall of the station staff discussed potato and bean diseases. Weld County Agent H. H. Simpson discussed weed control and gave a demonstration using calcium chlorate. The writer explained the potato experimental plots and discussed local potato problems."

NEW AND SUPERIOR RED RASPBERRIES.

The small fruit research workers of Eastern United States spent a full day, July 19, at the Experiment Station at Vineland, Ontario, and in visiting commercial plantings and the breeding grounds of Mr. Adams at Smithville, Ontario, besides inspecting many thousand seedling raspberries both at Geneva, New York and Vineland, Ontario.

Messrs. WALDO AND DARROW saw five new red raspberries which are superior under the conditions where seen to the Cuthbert and Latham. These five are the Lloyd George, an English variety, the Newburgh, originated by the New York Experiment Station, the Viking, originated by the Vineland, Ontario station, and the Adams 87 and Adams 101, originated by Mr. Adams of Smithville. Adams 101 is by far the firmest red raspberry known and grows like a black raspberry. Both the Adams varieties have been purchased by a group of raspberry growers in western New York.

THORNLESS MOUNTAIN BLACKBERRY.

GEORGE F. WALDO took a two-day trip into the West Virginia mountains in the early part of August to collect the thornless mountain blackberry. This thornless blackberry is found from northern Georgia north to Canada on the higher mountains, and west to northern Wisconsin. Selections so far introduced into cultivation have not succeeded. However, the same was true of the "black loganberry," (Rubus Alleghanensis), but among seedlings of this species raised under cultivation one selection better adapted to field conditions has been made. The same plan is to be attempted with the thornless blackberry.

WANTED: A THORNLESS DEWBERRY.

The small fruit specialists, who are now furnished with sharp-pointed knives, razors and needles for the removal of thorns from their anatomy, lend a willing ear to a report that a productive thornless sport of the Young dewberry has been found. Most thornless sports found in the past have been fruitless or nearly so and all thornless sports of the Oregon Evergreen reported have been worthless. If some one will find a productive thornless Oregon evergreen, he (and it) will receive a cordial reception!

IN A LIGHTER VEIN.

AS THE CROW FLIES!

Members of the scientific staff who have been on exploring or collecting trips in out-of-the-way places and who have lost their way or had their cars break down, compelling them to trudge to the nearest town, will be able to appreciate this story from THE DATE PALM, published at Indio, California, where the U. S. Experiment Date Garden is located:

"There was a young chap on a walking tour in New England. As he plodded under his heavy ruck-sack along a blazing road on a terrible August afternoon, he met a farm hand.

'How far is it to Croyden Four Corners, friend?' panted the traveler as he drew his sleeve across his red, wet face.

'Four miles as the crow flies, stranger,' replied the farm hand.

'But suppose,' said the tourist, 'that the crow's got a blister on each heel, and a thirty-pound bundle to carry, and has to walk besides--how far is it then?'"

THE BOYISH-BOB VS. THE SHINGLE.

Little Willie, raising hob,
Laughed at Mother's boyish-bob.
Mercy! HOW his trousers tingled,
When he, later on, was shingled!

---The Fun Shop.

DID IT EVER HAPPEN TO YOU?

This story is credited to one of the first of the extension workers in the South. The end of the day found him in a remote part of the southern mountain country, with a storm coming on. He looked anxiously about for shelter and finally sighted a small cabin. He hasten to knock at the door and was given a cordial greeting by the dweller and his family and invited to share the evening meal.

After the meal the extension worker watched with interest as the wife tucked away the six children, two at a time, in the one bed that stood in a corner of the single room the cabin contained. As fast as the two children fell asleep, they were lifted from the bed, placed on the floor near the fire, and two of the others put in the bed. Finally, all six children were on the floor and the mountaineer turned to the traveler and said, "Your bed is ready, sir." The tired visitor climbed into the bed and was soon fast asleep. When he awoke in the morning, he found himself on the floor with the six children, and the parents in possession of the bed!

FARM BALLAD: The rose is red, the violet's blue--and another payment on the car is due!

THE OFFICE OF HORTICULTURAL CROPS AND DISEASES

S E M I - M O N T H L Y N E W S L E T T E R.

The Official Organ of the Office of Horticultural Crops and Diseases, Bureau of Plant Industry, United States Department of Agriculture.

John A. Ferrall, Editor

All material contained in this NEWS LETTER is confidential and is not for publication without the prior approval of the Office of Horticultural Crops and Diseases.

Vol. I. Washington, D. C., September 15, 1929 No. 14

TAKE GOOD CARE OF THE POTATO CROP!

"The potato acreage appears to be about normal this year," declared W. R. Beattie, extension horticulturist, in a warning issued over the radio, "but due to dry weather yields are going to be rather light in several of the important producing sections unless exceptionally good growing conditions should obtain during the remainder of the season, and it would appear to be a wise policy to take good care of the potato crop this year.

"The first step in the proper saving of the potato crop is to allow the potatoes to become reasonably mature before they are dug, then dig them at a time when the soil is fairly dry so that the potatoes will come out of the ground in a clean condition. Without entering into a discussion of digging, I want to suggest that the all-important thing is to get the potatoes out without cutting, bruising or even skinning them, because every injury to a potato naturally impairs its keeping quality and lowers its market value.

"Where an elevator-type of potato digger is used, it will doubtless pay to set the point fairly deep so that a rather large quantity of soil will be elevated, thereby protecting the potatoes from bruising as they go over the elevator chains. Where potatoes are marketed directly from the field, care should be taken in grading them to avoid surface injury. Where the potatoes are to be stored, especial care should be taken in handling them. Bushel crates and baskets are used extensively for handling potatoes from the field to the storage house, but the main point is to handle them carefully.

"Experiments have shown that where stored potatoes are kept at a temperature of 50 to 60 degrees Fahrenheit for several days after they are placed in storage, any breaks in the skin will heal over without leaving a scar. On the other hand, if the potatoes are immediately

placed under a temperature below 40 degrees Fahrenheit, the skinned portions will turn dark and leave a scar, or under certain conditions, diseases will develop in these injured portions. After the curing period of 10 days or 2 weeks, the temperature should be lowered to a point below 40 degrees, if possible, but remember that potatoes should never freeze and that they do freeze at a temperature just a little below the freezing point of water.

"Many of the most successful potato storage men," declared Mr. Beattie, "maintain that it is not desirable to pile the potatoes more than 5 or 6 feet deep in bins and that no single bin should have a greater width than 12 feet, unless ventilated partitions are provided every 8 or 10 feet. I am bringing this matter of careful handling and proper storage to the attention of potato growers at this time, because I think it will mean dollars in their pockets before the winter is over."

PRESQUE ISLE, MAINE. "We have had in this section the past month," reports P. M. Lombard, "a little over one inch of rain. The temperature has been medium cold. Quite a quantity of Irish Cobblers have been harvested during the last three weeks. The prevailing price early in the season was $3.50 per barrel, f.o.b., gradually dropping to $2.75, which price held until the first week in September, when it went to $3.00. The southern part of the county has harvested more potatoes than the northern end.

"Irish Cobblers are fairly well advanced in maturity, the average field running from 10 to 15 per cent green stocks. The soil is exceptionally dry. The late varieties are still green and will hold two weeks longer, barring frosts.

"Dr. Krantz of the Minnesota Agricultural Experiment Station spent several days with us recently.

"Harvesting began in earnest September 9th."

AMERICAN SALAD BOWL BOUNTIFULLY SUPPLIED! Under this heading, a press release by the Office of Information on September 8th declared that what is in the American salad bowl and in the vegetable dishes of the Nation is reflected in considerable measure in the records of car-lot shipments of fruits and vegetables. Shipments of fruits and vegetables for the season to the end of June totalled 668,814 carloads. "String beans, carrots, cauliflowers, celery, cucumbers, lettuce, onions, green peas, strawberries, tomatoes, watermelons, potatoes and cabbage were shipped in considerably larger amounts than last," says the release.

A NEW FOOD PLANT!

"The southern European Trapa natans or water caltrops has moved in and established itself at the north side of the Virginia end of the Highway Bridge," reports D. N. Shoemaker. "It seems to be perfectly at home, and has already occupied about a quarter of an acre of river. The leaves make a smooth green floating meadow, the plants being anchored by a long, very slender stem. The leaves have hollow bladders on the stems. The nuts are produced under the rosette of floating leaves, and soon ripen and drop to the mud below. They are armed with four very effective horns.

"Trapa includes several species of food plants, one of which is the picturesque buffalo-head often found in Chinese shops. These species are widely used for food in China, Cashmere, India, and southern Europe."

RECREATIONAL ACTIVITIES.

The bowling season of 1929-1930 was officially opened when the ten teams of the Agriculture Interbureau Duckpin League took the floor on September 12. This league is made up of teams representing various bureaus and offices of the Department. The Bureau of Plant Industry team won the championship of the league last season. (This team was captained by a Horticultural Crops and Diseases employee which, of course, makes this an horticultural item!) In addition to the Interbureau, the Department has another eight-club league for men and two leagues of six teams each for women bowlers, this sport having taken front rank among recreational activities.

The Department has long encouraged recreational activities as a splendid method of building up a strong cooperative spirit, a sense of office loyalty, and good fellowship among employees, and the movement has added a firm friend in Dr. Auchter. The Agriculture Department workers have long been active in golf, baseball and tennis as well as bowling and the lobby of the main building at Washington contains an impressive array of trophies won by its various athletic teams in open competition in the District of Columbia.

ELECTRIC LIGHT BULBS AND LAMPS. Since the General Schedule of Supplies provides that all electric light bulbs and lamps for use both in Washington and the field are to be purchased from the contractor, please submit your list of needs for these to us. ONLY IN REAL EMERGENCIES MAY ELECTRIC BULBS OR LAMPS BE PURCHASED IN THE FIELD.

NEW FORM FOR REIMBURSEMENT ACCOUNTS.

Just as the NEWS LETTER of September 1, was ready for mailing, we received a small supply of the new form for reimbursement accounts (No. 1012, with the yellow form, No. 1012-a, for carbon copies) approved by the Comptroller May 3, 1929. Samples were included in the envelopes in which the NEWS LETTERS were mailed, and additional copies will be included with this issue. As soon as more can be secured, supplies will be sent to all field men.

We have been advised that all reimbursement accounts must be rendered on this form of voucher, beginning with the month of September. When you receive copies please destroy all the old voucher forms now in your possession so that there will be no possibility of your account being rendered on the wrong form.

MARK SHIPMENTS TO SHOW THAT THEY ARE OFFICIAL.

Occasionally employees send shipments to Washington, D. C. addressed to individuals--sometimes to themselves, to be held until they come in. When there is no mark to show that the package is official and it happens to be held in storage, the employee is very apt to find himself held liable for storage charges. Write on such boxes or packages "Bureau of Plant Industry, U. S. Department of Agriculture. OFFICIAL." This will indicate clearly that the shipment is not personal and the Department will be able to pay necessary charges.

DEPRECIATION OF VEHICLES USED IN COOPERATIVE WORK.

In a recent ruling the Comptroller General held that The Geological Survey had no authority to charge other bureaus and establishments for depreciation on passenger vehicles used in scientific and technical investigations, where the Survey was furnishing such vehicles cooperatively. Reimbursement at present is made to the Survey only for current operation and maintenance expenses, and that office wanted permission to make an additional charge to cover depreciation. (A-27111-8 Comp. Gen. 600).

SALARY CHECKS.

We regret very much the delay experienced by many of our employees in the receipt of their August salary checks. The payrolls left this office at the usual time, but because of conditions over which we had no control it was impossible to have the checks forwarded from the Disbursing Office before September 4. This was an abnormal condition and is not likely to be repeated.

--R. K. SWARTZ.

NOW, WHERE HE MADE HIS MISTAKE WAS IN --

A few typical suspensions made by the Office of Accounts, and permitting you to profit from the other fellow's losses.

Left headquarters _____ by automobile, August 6, 7 a.m; dinner at ____ $1.00; returned 7 p.m. Suspended as the Comptroller General has ruled that in connection with auto trips of less than one day the official necessity for leaving before 8 a.m. or returning after 6 p.m. must be shown.

Gasoline 71c, oil 50c, total $1.21; gas 91c, oil 50c, total $1.41; gas 92c, oil 25c, total $1.17. Suspended, as purchases on the same day from the same dealer in excess of $1.00 should be supported by a subvoucher. If the articles were procured from different dealers, a statement to this effect should be made.

August 8, 10c from charge of 25c for hotel porter fee at _____ as the number of pieces of baggage handled was not shown and we can allow only the maximum for one piece. Par. 99-c, Travel Regulations.

Dinner $1.00, enroute, August 9, is suspended as you returned to your headquarters at 12:30 p.m. and Par. 62, Travel Regulations, allows dinner only when arrival is after 1 p.m.

August 14, 15c suspended from charge of 40c for ten-word telegram, _____ to _____ as the official rate is only 25c. It appears that the telegraph company charged the commercial rate due to the fact that your copy of the message was not endorsed "Official Business, Government Rate," as required.

Lodging at _____ August 6 to 9, inclusive, 4 nights at $2.50, $10.00, has been suspended as no subvoucher was received. Accounts for lodging must be supported by subvoucher.

Subvoucher 8, covering labor for the period from August 10 to 13, 4 days at $2.00, is returned herewith as the same has not been signed by the payee. In resubmitting the item an explanation should be made as to the necessity of paying cash instead of submitting a voucher to us for payment here in the usual manner.

August 18, dinner $1.00, Milwaukee, is suspended as the voucher fails to show the hour of departure from your headquarter at _____ as required by Par. 48, Travel Regulations. Attention is also called to the fact that the time of arrival at each point where official work is performed or expense incurred must be stated in both the reimbursement voucher and your itinerary report.

August 23, telephone call, 75c, Milwaukee, as Par. 84, Travel Regulations, requires that the place and party called, time and that the call was on official business must be stated.

IN A LIGHTER VEIN.

AN ECHO OF THE CONGRESSIONAL SEED DISTRIBUTION.

The assembling of Congress has recalled to mind the circulation some years ago in the Bureau of a burlesque letter of application for seed. It was so very much like a number of requests received in connection with the old Congressional Seed Distribution work, that it was taken seriously in some quarters.

THE CHIEF OFFICER, GOVERNMENT PLANT BUREAU. Sir--I am wondering if a generous Congress has again been able to overrule the autocratic uplifters and provide funds for supplying free seeds to the deserving farmer? If so, will you please be good enough to consider my application. Now, sir, I am not a farmer, but I have a quarter of an acre of ground that is not used for anything but growing stones. I wish to make it into a profitable and attractive garden.

Please send me one dozen strawberry seeds; one bee, and hive complete; one dozen plum seeds; ten square yards of grass; one concrete path, winding; six wall flowers and six pieces of wall; and also enough baskets for the strawberry and plum crops--and, yes, a side and back comb for the honey. I forgot to add that the grass should be green, and not the yellowing and withered kind that I see in so many gardens; and the seeds should be of a flavor unsuitable for chickens.

WHY DADDY DIDN'T COME TO WORK.

Sammy, when the wind was strong,
Flew his kite all morning long.
"My!" he cried, "Just see it dance!
"The tail is made of Papa's pants!"

A SIDELIGHT ON ENGLISH WALNUTS.

Once upon a time, it is said, a humorist was trying to demonstrate the efficacy of jokes. "I can tell jokes that will make trees crash down," he boasted. Called upon to make good his claim, he went with a friend to a group of trees nearby and stopping in front of a hickory tree told one of his jokes. The tree, according to the story, immediately broke and fell to the ground. The same thing happened with a number of other trees. Then the humorist took his place in front of a stately tree and told one of his best jokes. No results. Another and another joke. Still no results. Disgusted, he and his friend returned to the house. Some three hours later they were aroused by a deafening crash. Hurrying out they found that the tree had broken in two and part of it was lying on the ground.

It was an English walnut tree.

BOOK REVIEW. The Seed Catalogue. "The pictures I admire for hours-they're so much prettier than the flowers."

EDITORIALLY SPEAKING.

By John A. Ferrall

BRINGING THE "GARDEN OF ALLAH" TO AMERICA.

About the time this editorial reaches your eye, Dr. Auchter will be taking his first look at the date gardens of the Coachella Valley of California, the present center of commercial date growing in the United States. He will be able to see for himself the progress that has been made in bringing the "Garden of Allah" to America. Scarcely a decade ago the date palm was little more than a botanical curiosity in this country. Now it is the basis of a promising fruit industry--an illustration of the practicability of introducing and establishing new non-competitive fruit industries. Some 2,500 acres have been planted to dates in this country, and about 250 acres are now in commercial bearing, the production last season reaching 1,500,00 pounds.

The experimental plantings of the Office of Horticultural Crops and Diseases in California, Arizona, Texas and Nevada now contain a larger number of date varieties than are to be found in any one oasis of the Old World. These varieties are being given a thorough test to determine which are best suited for commercial culture in this country. Incidentally, the search for and introduction of these varieties, some of them extremely rare even in their home countries, yielded experiences as interesting as any to be found in the annals of American horticulture.

There is, for example, the North African date variety that is of such superlatively high quality that in its home country the trees have been cut down and destroyed! The Department's investigator, touring the oases and searching for fine date varieties to be brought into this country, was astonished at the rareness of a variety which to him seemed practically the finest date of the entire region. The Arabs agreed with him in his judgment of the quality of the date--and astonished him by adding that its quality was the explanation of its rareness.

It seems that in the old days the rulers of the district served only the very finest dates at their frequent banquets. To provide the dates, their agents visited the groves at the harvest season and took possession (entirely without compensation!) of the entire crop of the finer sorts. In the course of time the growers decided that it was a good bit more profitable to grow slightly inferior dates which they could retain for their own use, than to produce the finest type of fruit merely to have it confiscated.

And so it came to pass that the palms bearing the superlatively fine varieties quietly disappeared from the groves, being replaced by inferior sorts, until some of them are practically extinct in their home countries though represented by a few offshoots in America.

OVER THE RADIO.

(Broadcast by W. R. Beattie, Extension Horticulturist, in connection with the National Broadcasting Company's noon-hour program.)

THE SWEETEST STORY EVER TOLD!

Did it ever occur to you that honey is the only natural sweet ready for consumption which has not had to be put through any manufacturing process, and in this respect differs from all other commercial sugars?

You are doubtless familiar with the little jingle, "How doth the busy little bee improve each shining hour," but here comes Mr. Jas. I. Hambleton, apiculturist, which means "bee culturist," of the Department of Agriculture, who says that it is estimated that to produce a pound of honey a single bee would have to work every day in the year for more than eight years, and that in so doing would travel approximately three times around the earth!

From this, it can be readily understood that it requires myriads of bees to produce the tons and tons of delicious honey which is sold on our markets. This leads me to the thought that I am certainly glad that I am not a bee. The bees in the course of converting the nectar of the flowers into honey change its chemical composition so that it is really a pre-digested food and easily assimilated by the human body. Of course, you understand that honey is a different form of sugar from ordinary sugar and that is why doctors frequently prescribe honey as a sweet for persons who cannot use ordinary sugar.

The other day when I carried home some honey, I placed it in the refrigerator, because I thought that the refrigerator was the proper place to keep all kinds of food in hot weather. My wife promptly took the honey out of the refrigerator and placed it on the pantry shelf, saying something about the dumbness of husbands as she did so! Honey, whether comb or liquid, says the "Keeper of the Bees," here in the Department, keeps best in a warm, dry place. It should not be stored in a refrigerator where it would occupy valuable space, besides the honey would become too thick, the low temperature tending to make it granulate. Well-ripened honey will not spoil if left exposed to air and warmth. I must confess that this was a new one on me, so I am passing it on to you.

HOW IS YOUR MUSKMELON?

"How is your muskmelon?" is the common breakfast table question these mornings. Most of us enjoy a portion of a good, sweet muskmelon for breakfast; in fact, they are good almost any time, provided they are good muskmelons. According to recent statistics, the commercial planting of muskmelons in the United States embraces some 100,000 acres annually, producing between 38,000 and 40,000 cars. The term "cantaloupe" is the trade name given to most of our muskmelons.

PERSONAL MENTION.

DR. AUCHTER left Washington early in September for a trip of approximately two months for the purpose of conferring with Bureau and State officials and others in connection with the work of Horticultural Crops and Diseases. He plans to visit Chicago, Illinois; Greely, Colorado; Corvallis and Hood River, Oregon; Bellingham, Wenatchee and Yakima, Washington; and several points in California. The return trip is planned by way of Louisiana, Florida and Georgia, and Dr. Auchter expects to make stops at Orlando, Florida; and Albany and Fort Valley, Georgia.

J. R. MAGNESS, principal pomologist, reported for duty September 3.

ROY W. NIXON, associate horticulturist, is the author of a motion picture film given its first showing before Bureau officials on September 11. This film, which has been titled "Date Growing in the Iraq", is made up from motion pictures taken in the date regions of Mesopotamia by Mr. Nixon from September, 1928 to March, 1929, the film being assembled, titled, etc. in the Motion Picture Laboratory of the Department. Those who have seen the film regard it as one of the most interesting yet prepared by a Bureau worker.

MISS HARRIET ROSS, secretary to Dr. Auchter, is spending a short vacation at Niagara Falls in company with her aunt. The friends of Miss Ross will be glad to learn that she has almost entirely recovered from her recent attack of ptomaine poisoning. Miss Mary A. Lambert is taking over Miss Ross' work during her absence.

CHARLES GREY has been engaged during the past two weeks in planting experimental plots of narcissus bulbs at Babylon, L. I. and nearby places.

G. HAMILTON MARTIN AND MISS ALINE FENNER spent a week at the New Jersey Experiment Station, at commercial nurseries at Babylon, L. I. and nearby points on Long Island, inspecting plantings of phlox and other perennial ornamentals, for the purpose of collecting information and material of diseases of these plants. Phlox appeared to be more severely diseased than in former years. MISS FENNER advises that there was hardly a healthy plant observed in any of the nurseries and experimental plantings visited.

J. I. LAURITZEN is spending a week at points in Maryland and New Jersey, investigating the relation of field diseases of sweet potatoes to storage. He accompanied a group of Maryland farmers on a tour through New Jersey.

CHARLES L. POWELL has been appointed a junior physiologist, to assist in the fruit handling, transportation and storage problems, with headquarters at Yakima, Washington.

JOHN W. ROBERTS, horticulturist, plans to leave Washington on September 15 for a short trip to Georgia to study peach diseases, and to attend the meeting of the Georgia State Horticultural Society, at which he is listed to give a paper on "The Control of Peach Bacterial Spot."

TYOZABURO TANAKA, professor of horticulture at the Taihoku Imperial University, Taiwan, Japan, and who for a number of years has served as collaborator in this office in connection with the Citrus breeding and testing work, writes that the Taiwan station is preparing to construct a quarantine greenhouse similar to that operated by the Office of Horticultural Crops and Diseases at Bethesda, Maryland. The Taiwan officials will also adopt the Department's methods of aseptic plant quarantine and propagation.

DR. A. G. PLAKIDAS, who has been making studies on the strawberry mosaic disease at the Falls Church fruit disease laboratory in connection with this office, finished his work for the season on August 28, and has returned to Baton Rouge, Louisiana.

EMMETT C. SCOTT, senior clerk in charge of inventories, took advantage of the Labor Day holidays to make a fishing trip to Piney Point, Maryland. He reports the fish--as well as the mosquitoes--biting well! Mr. Scott, by the way, was administrative assistant on the famous Henry Ford "Peace Ship", visiting Norway, Sweden, Denmark, Germany and Holland. While the expedition failed in its purpose to get "the boys out of the trenches by Christmas," it supplied Mr. Scott with an unusually interesting background of experiences.

NELLIE A. BROWN has returned from the fruit disease field laboratory at Hood River, Oregon, where she has been since May working on the perennial canker of apples. The Hood River Branch State Station at Hood River and the Department workers at the station, collaborated in giving Miss Brown a farewell picnic on the occasion of her departure from Hood River.

MARY K. BRYAN, who spent several weeks earlier in the summer making a survey of tomato fields in California with a view to determining the extent of the infection with bacterial canker, with a short trip to Utah for a study of the same disease, has recently made several short trips to New Jersey and New York in connection with these investigations.

G. P. RIXFORD, associate physiologist, who was somewhat indisposed recently because of the intense heat encountered on several of his short field trips in California, reports that he is making a rapid recovery and conducting his investigations as usual.

THE OFFICE OF HORTICULTURAL CROPS AND DISEASES.

S E M I - M O N T H L Y N E W S L E T T E R.

The Official Organ of the Office of Horticultural Crops and Diseases, Bureau of Plant Industry, United States Department of Agriculture.

John A. Ferrall, Editor.

All material contained in this NEWS LETTER is confidental and is not for publication without the prior approval of the Office of Horticultural Crops and Diseases.

Vol. I Washington, D. C., October 1, 1929 No. 15

DIEHL CONTRIBUTES RESUME OF SUMMER'S OPERATIONS.

"You may be interested in a resume of our Summer's operations in the Pacific Northwest," writes H. C. Diehl, associate physiologist." Ezell and I left Wenatchee in early June and were joined in the Puget Sound country by V. B. Bonney of the Food, Drug and Insecticide Administration, and Lutz of our own project. Our objective was a resumption of the frozen pack studies, which had been temporarily halted in 1927 by the spray residue crisis. We planned to do several things for this season and a statement of these will give a brief picture of the extent of our accomplished work because happily enough we were able to undertake almost everything we had planned.

"First, we planned to reopen contact with packers of frozen fruits in the Northwest, both in order to obtain a correct perspective of the possible future for the small container and to survey the problems arising from this new development. In 1927, the frozen pack tonnage was put up mostly in large containers such as the fifty-gallon barrel and the product was utilized mainly by preservers, jam makers and jelly manufacturers. Today the outlook is for the retail distribution of small packages of frozen fruits and possibly vegetables to the individual households of the country.

"Second, we planned to pack and freeze under commercial conditions a wide variety of fruits and vegetables to determine the following points:

1. The relative merits of the paper container, the glass container, and the can;
2. The value of a vacuum pack and the degree of vacuum required;
3. The methods of packing required to put up these packages, and the weights of material required;
4. The relative merits of different sugars, sirups and other materials added for preserving and flavoring the fruit or vegetables;
5. The development of equipment and methods of freezing adapted to the small container.
6. A study of the microbiological problems arising during the packing and handling of these fruits and vegetables; and
7. A study of the behavior of these commodities in freezing storage and their best utilization after being marketed.

"Calling the roll of the fruits and vegetables packed this year, I can list the following; strawberries, red raspberries, black raspberries, loganberries, blackberries, sour cherries, sweet cherries, muskmelon, avocado, honeydew and casaba melons, grapes, pears, peaches, apricots, pears, corn, tomatoes, beets and beans.

"Third, the whole freezing process was gone into more thoroughly with the object of eventually answering such questions as:

1. What is the effect of very rapid freezing upon fruit and vegetable texture and what are the physical factors involved; and
2. What temperatures are best suited for commodities to be utilized in different ways?

"Fourth, we have given considerable thought to the use of carbon dioxide ice as a refrigerant and of the gas as a preservative. So-called dry ice has been much in the minds of packers of frozen fruit during the past two years. Its use, however, has brought up a number of unforseen questions to which we do not as yet have complete answers.

"Fifth, with the aid of recording thermometers placed in cars of frozen fruit moving East, we are accumulating information as to the temperature conditions prevailing in these cars, which may eventually become the basis for a more complete study of the transportation of this commodity and suggestion of better methods.

"The questions of transportation and retail distribution of frozen pack fruits and vegetables are to my mind at present much more perplexing and now even more important than the questions arising from packing problems. The latter are being attacked by a considerable number of investigators and lend themselves to a relatively easy solution, although their solution obviously takes time.

"Distribution of this frozen commodity, however, will entail not only consumer advertising and the usual marketing procedure required for the distribution of food products, but carries with it the necessity for special service developments and handling practices so that the cardinal requirement of frozen pack distribution--constant and adequate refrigeration--will not be neglected.

"While I have mentioned frozen vegetables on an apparent par with frozen fruits, we are at present discouraging the commercial frozen packing of the former, until it is determined beyond shadow of doubt that there is

While we have only begun to put our shoulders to the wheel toward solving the problems of this industry, it is quite manifest that the work being done is helping the industry avoid trouble and improve practices at the very inception. In fact, a number of canners have not been backward in informing our investigators that no food industry has begun so auspiciously in this respect.

"Our forces in the Northwest are now turning to other matters, "the report concludes. "Ezell is in the Yakima district at present conducting experiments to determine the relation of maturity of Bartlett pears to canning quality. Later he will conduct there the fruit cleaning experiments which have this year as their primary object the determination of the effects of oils upon residue removal. Ryall is in the same district at present, carrying on peach and prune maturity studies. Later he will move to Idaho where he may carry on some further prune maturity work but he has for his main job the dissemination of information regarding spray residue removal and the smoothing out of difficulties encountered by the ranchers in their fruit cleaning. I shall probably visit the fruit districts of British Columbia, Washington, Oregon, Idaho, Utah and Colorado, where fruit cleaning is done, within the next few months in order to help in keeping the residue removal situation in the relatively quiet condition into which it has now entered in the Northwest, after two or three years of rather hectic prominence. Samples from our frozen pack will be examined several times during the winter, both so that we may study the effects obtained and draw conclusions, and also as a demonstration to the trade. It is planned to have experimental cuttings in the Northwest at Seattle, in Chicago, and in Washington, D. C. "

POTATO BREEDING INVESTIGATIONS. A study has recently been made by Wm. Stuart, senior horticulturist, of the relative possibilities of Louisiana and Florida for the establishment of a cooperative potato breeding and testing station conducted jointly by this office and the respective experiment stations of the two States. Early in September Director Dowell and Dr. Miller of the Louisiana station, with Mr. Stuart, studied the soil possibilities and facilities offered by interested commercial potato growers of Houma in Terrebonne Parish, and found them entirely satisfactory for the conduct of the experimental studies contemplated

A few days later, Dr. A. F. Camp, and Dr. Stahl of the Florida Agricultural Experiment Station, with Mr. Stuart, made a similar study of the possibilities offered in the Homestead district of Florida for potato breeding. Suitable soil for potatoes was found to be available as well as a keen interest for experimental potato studies on the part of some growers. A forenoon was devoted to a consideration of the facilities offered in the Hastings potato district for the establishment of a seedling potato testing station. Dr. L. O. Gratz of the Florida station and Mr. Robinson, manager of the Hastings Potato Growers' Association, were found to be keenly interested in the proposed outline of work.

HUTCHINS MAKES DEBUT IN TALKING PICTURES!

It is rather unusual when those concerned with amusing (sic) the public honor a scientist of the Department--or in any other institution, for that matter! In fact, such a procedure has been utterly forsaken on the ground that the Department had nothing which could be used for mere amusement. But lo, and behold, in the release of Fox Movietone News for the week of September 21, we are greeted with the scenes of Dr. Lee M. Hutchins advising a farmer to dynamite his peach trees as the only safe and sure way of eradicating the phony disease, in pursuance of the present intensive campaign to eradicate this serious peach malady. Not only is the advice given, but it is followed; the Fox Movietone News offers some of the most realistic shots of explosions which this critic has seen in many weeks, as well as their being unusually well photographed. As a matter of interest, it was only a few weeks ago that the Fox Pictures Corporation released, in both their sound and silent newsreels, entertaining shots of airplane dusting of cotton.

---W. A. Whitney.

NOTES FROM GREELEY, COLO.

"Rainfall every day from September 2 to 8, inclusive," reports W. C. Edmundson, "1.81 inches being recorded at the station. The weather cleared the night of the 8th and the temperature dropped to 28 degrees. This heavy frost killed melons, cucumbers and tomatoes and did considerable damage to the bean crop. According to local seed men, the seed bean yield for the district will probably be cut from 25-35%. About one-third of the potato foliage was killed. In fields where the vine growth was heavy, very little foliage damage occurred, while in other fields where the vines were small the damage was more severe.

"Dr. Auchter visited the station September 7th and 8th, but owing to the rainy weather it was impossible for him to have an opportunity for a thorough inspection of the district, though some field trips were made and the work of the station discussed. Dr. R. W. Goss, pathologist of the University of Nebraska, Mr. William Morrow, manager of the Nebraska Certified Seed Growers' Association, and Mr. J. W. Weston of the Gulf Seed Co., Alexandra, La., were visitors to the station in September."

CONCERNING PAY ROLLS.

In the future all field employees of the office under appointment (with the exception of per diem employees) will be listed on the field pay roll unless we are advised BY THE 19th OF EACH MONTH by field leaders that such employees should not receive pay for the full month.

Field leaders should submit payroll vouchers (Form 1013-D) for all per diem employees, whether temporary of permanent. They should also advise this office promptly of the dates on which new employees under their supervision actually start to work. Until this information is received, such employees cannot, of course, be placed on our pay roll.

If an employee's services are suddenly terminated, notice of such termination should be sent BY TELEGRAM to Mr. R. K. Swartz in order that overpayment to the employee may be avoided.

OVER THE RADIO.

(Broadcast by W. R. Beattie, Extension Horticulturist, in connection with the National Broadcasting Company's noon-hour program.)

APPLE CIDER. Did you ever visit an old fashioned cider press on a cool October evening and drink the thick, sweet cider through a straw until you just couldn't drink another drop? And then one day you and your father loaded a wagon with nice ripe apples and took them to the cider mill and brought home two or three barrels of cider. How everybody enjoyed that cider! But very soon the cider began to ferment in the barrels and if left long enough, turned to vinegar. Sometimes we "boiled down" the cider and sealed it in jugs or bottles for use in the mincement and for drinking--but it always had that boiled taste.

J. S. Caldwell, senior physiologist of the Office of Horticultural Crops and Diseases, has worked out a process of pasteurizing sweet cider and bottling it so that it will keep indefinitely, and taste almost like the fresh cider direct from the press-without fermenting or the formation of a particle of alcohol as in fermented or "hard" cider. This process is so simple that the work can be done right in the home kitchen. Cider as it comes from the press contains small particles of apples, - pomace it is called, - and most of this can be taken out by straining the cider through a woolen or other closely woven cloth. Straining through cloth, however, will not remove all of the sediment, but enough for practical purposes. The cider can be kept in one-quart and two-quart fruit jars having glass lids or, better, in bottles that may be sealed with crown caps the same as are used on grape juice and soft drink bottles. One gallon bottles having a mouth suitable for sealing with crown caps are inexpensive, too, and make the best containers.

After straining the cider fill it into the bottles which have been washed and scalded, but leave an inch or two of space in the neck of the bottles to take care of the expansion of the cider during sterilization. As soon as the bottles are filled and sealed, place them in a wash boiler or metal tub with a piece of wire netting in the bottom to keep the bottles from coming in direct contact with the metal. Cover the bottles with cold or lukewarm water, place the boiler on the stove and bring the water to a temperature of 170 degrees Fahrenheit, the bottles remaining sealed during the sterilizing process. Don't guess at the temperature, but if you do not have a thermometer that will register as high as 170 degrees, then heat the water surrounding the bottles of cider until it begins to give off vapor which will be about 180 degrees, which is not high enough to injure the quality of the cider, holding the temperature at 170 or not higher than 180 degrees for 15 minutes for quart bottles or 30 minutes for gallon bottle

Most people associate sterilization or pasteurization with boiling, but cider, for example, can be perfectly pastuerized at 170 degrees which is 42 degrees below the boiling point of water. If you boil the cider or even heat it above 180 degrees you destroy its quality and give it a boiled taste. After the cider is sterilized it may be removed from the water, allowed to cool, and stored in any convenient place.

IN A LIGHTER VEIN.

A MATTER OF VIEWPOINT. The automobile salesman was trying to persuade an old farmer to purchase a car. The farmer had listened patiently and agreed that an automobile would be very useful but said that he had only a little money ahead and felt that he should use this to purchase a cow, which he very much needed for the farm.

"Well," said the salesman, "you'll find that you have to go to town every now and then--and you'll look mighty funny riding into town on that cow."

"Yes," admitted the old farmer, "but I'd look just as funny trying to milk that automobile of yours."

The wheat was shocked; the beets turned red,
The corn picked up its ears.
The mocker mocked, the mint was crushed,
The onions moved to tears.
The 'tater's eyes ope'd in surprise,
The tickle grass was tickled.
The cause of all you may surmise--
The cucumber was pickled!

AH, THESE TESTIMONIALS! This seems to be an age of testimonials, with people in all ranks of life allowing their names to be used in endorsement of this product and that. It is not surprising, then, to have horticultural products represented. Consider this:

"I was thin and run down," declares the endorser. "I had nervous spells. There were black spots in front of my eyes and my hair kept coming out and would not stay combed. My garters kept slipping down. Frequently on rainy days I could not find my umbrella. I felt full after eating; and often just before meals I felt weak and famished. I hated to go to bed at night; I disliked to get up in the morning. I felt cross when my wife's mother came to visit us. Sometimes in the morning the coffee tasted like dishwater.

"THEN A FRIEND SUGGESTED: 'WHY DON'T YOU EAT MORE SAUERKRAUT?"

"I have never thought of that, but I followed his advice. Now my vision is clearer and my breath stronger. I seldom open a gate any more--I just jump over the fence. I am first in bed at night and the last one up in the morning. My hair does not come out any more, because the last of it disappeared just before I commenced the sauerkraut treatment. For people who are run down at the heel as I was, I cheerfully recommend sauerkraut. Even blindfolded you know there is not a cough in a carload."

EDITORIALLY SPEAKING.
By John A. Ferrall.

LETTERS OF AUTHORIZATION: IDEAL--AND REAL.

I judge that the ideal letter of authorization would read about as follows: "You, and such assistants as may seem desirable, are authorized to perform travel in the United States and foreign countries whenever necessary, and will be allowed such expenses for travel, subsistence, supplies, etc. as are considered essential." Since this form has not yet been adopted, the next best thing is to READ YOUR AUTHORIZATION AND LIVE UP TO ITS PROVISIONS.

I have recently had the privilege of attending a lecture on this subject by Mr. Allanson. In fact, I was the only man in the audience. It seems that his idea is that a letter of authorization simply establishes a credit and the amount of that letter should be treated exactly as your checking account--and its general provisions (itinerary, type of expenses, etc.) taken just as seriously as any other instructions that might be given you officially. Unless an employee keeps a careful check on his expenditures under a letter of authorization, and lives up to its general provisions, the letter becomes practically useless, for the Bureau's accounting must rest upon the assumption that when a man is given a definite authorization he will live up to it. A close tab on money available in an authorization is just as important to an individual as his knowledge of the balance under his chedking account. Pressure of work cannot be accepted as an excuse for failure to keep such a check, for there is no more important work, if our affairs to continue on a sound basis, than to know constantly just where we stand financially.

In most cases of suspensions resulting from an employe's failure to keep within the provisions of his authorization, there is not the slightest question about the accuracy of his explanation for the neglect; nor any question of the absolute propriety of his use of the funds involved. The question is merely one of bookkeeping. No employee should expend funds, perform travel, use a personally-owned automobile, or incur expenses of any kind until he is sure that the work is authorized. This means that every employe should have a copy of his authorization and, preferably carry it with him. One of our men keeps a tab on his expenditures by writing on the back of his copy of the letter of the authorization the amount authorized, vouchers sent in (in ink), and (in pencil) a daily total of expenditures--just as one keeps the stubs of a check book. So he knows definitely when to ask for an increase in the amount, if an increase is necessary. The home office finds it difficult to do this as it never knows what vouchers (liabilities) are outstanding.

Read your letter--and if funds are getting low, the time covered is not sufficient, the itinerary too restricted, the authority for expenditures too narrow--WRITE US AT ONCE. Do not incur unauthorized expenditures and trust to luck to get reimbursed. That would be just too bad!

AND READ YOUR LETTER OF AUTHORIZATION AGAIN--AND YET AGAIN!

AND REMEMBER--all communications and accounts formerly sent to the head clerks of the various units of the office should now be mailed to Mr. Swartz for attention. This means that all public vouchers go direct to him.

WORLD WAR VETERANS--INSURANCE. Attention is called to the fact that the World War Veterans Act as amended May 28, 1928, permits the granting of Government life insurance in any multiple of $500.00 (not less than $1,000 nor more than $10,000) to any veteran of the World War who has heretofore applied for or been eligible to apply for yearly renewable term (war time) insurance, provided that such person is in good health and furnishes satisfactory evidence to that effect.

The Government is offering seven plans of insurance, the policies participating in dividends, and there is no restriction as to beneficiary. Detailed information and blanks may be secured from the Veterans Bureau Washington, D. C. or any of the regional offices of that Bureau. The Bureau of Plant Industry will be glad to secure such information and blanks for any World War veterans among our employees who may be interested.

We are very anxious to make sure that every World War veteran is aware of his rights and privileges under the legislation governing the issuance of insurance by the Government.

PURCHASE OF GASOLINE IN PENNSYLVANIA. Employees who may have occasion to purchase in Pennsylvania gasoline for official use, should know that a Supreme Court decision has declared that such gasoline purchased in Pennsylvania for official use is not subject to State or other local tax. If you think that you will have occasion to purchase gasoline in Pennsylvania, then, please write to Mr. Swartz for necessary tax exemption certificates, etc.

ADVANCE OF FUNDS WITH RETIREMENT SECURITY. The authority for advancing funds to employees and using as security (instead of the usual bond) the funds to their credit in the retirement fund, is based on Section 8 of the Act of Congress approved June 3, 1926, and known as the "Subsistence Expense Act of 1926". In connection with this, Paragraph 6 of the Treasury Department's Circular No. 369 revised, reads: "Advances shall not be used for any purpose other than for proper subsistence on official travel."

While it is thus clear that the law authorizing the use of retirement funds as surety for advances for travel specifically limits such use to "subsistence" purposes, it is not believed that this need apply absolutely and Mr. Allanson has agreed to pass vouchers where items other than subsistence make up not more than 15-20% of the reimbursement. If they exceed 20%, then the employee must secure a bond in the usual manner instead of depending upon his retirement deductions as surety.

PERSONAL MENTION.

(These personnel items are not only one of the most popular features of the NEWS LETTER but also of decided importance as they supply information concerning the movements and activities of our workers. Project leaders should designate some one in their office to furnish such items to the NEWS LETTER about the 8th and 23d of each month. It is not safe for us to extract the data from copies of authorizations since trips are sometimes delayed or even abandoned, itineraries changed, etc. It will be appreciated if investigators will mail us a paragraph themselves when leaving for a trip, or returning from one.)

K. S. MARKLEY, associate biochemist, left Washington September 21 for Geneva and Ithaca, New York, where he will spend about six weeks collecting samples of apples from the varietal orchards located at those places. Dr. Markley is engaged in a study of the relation of respiration to the cutin and wax content of apples.

GEORGE M. DARROW spent September 18 at the Boyce-Thompson Institute of Yonkers, New York, going over the equipment for the studies on the effect of light on plants. He also went over Dr. Kunkel's work on virus diseases, Dr. Zimmerman's studies in propagation and Dr. Denny's work on the treatment of potatoes and other tubers and plants with chemicals to break their rest periods. On September 19 and 20, he attended the annual meeting of the New York Fruit Testing Cooperative Assn. at Geneva, giving a paper on the small fruit breeding work of this office. The exhibit of the Giant Seckel pear, furnished by Dr. M. B. WAITE for this meeting, was the center of much interest. The exhibits of the Canadian Government and the many States, illustrating the results of breeding work, were among the best ever shown.

J. R. MACNESS, principal pomologist, and JOHN W. ROBERTS visited Georgia late in September to confer with State workers and growers on Southeast peach production, to investigate conditions in commercial peach sections, and to study the possibility for decreasing the destructiveness of peach diseases.

P. M. LOMBARD, associate horticulturist, reports that potato harvesting on a large scale began in the Presque Isle, Maine, section on September 9, though the late varieties were still green and a hard frost needed to kill the potato vines. On Aroostook farm they began harvesting the experimental plots at the same time. Potatoes are of exceptionally good quality this year, Mr. Lombard reports, but the yield is in most cases just fair. B. E. BROWN of the Bureau of Chemistry and Soils arrived September 17th to harvest experimental plots in Presque Isle and Mapleton.

T. RALPH ROBINSON, senior physiologist, left Washington September 27 for a trip to Alabama, Florida and the Gulf States generally in connection with an inspection of various field tests of Citrus hybrids, relatives and stock plants.

WILLIAM STUART, senior horticulturist, visited the Presque Isle station late in September to take notes on varieties and seedlings, to secure exhibition stock, and to arrange for shipping stock to Washington, D. C. and southern points.

FRANK A. THACKERY, senior agriculturist, in general charge of field station activities for the Crop Physiology and Breeding unit in the Southwest, with particular reference to cooperative work on Indian reservations, has been taking a well-earned vacation but will be back on the job in time to meet Dr. Auchter and show him some of the interesting work in southern California. Incidentally, the Chief would have to go a long way to find a better guide to the section.

M. B. WAITE made a short trip to New Jersey and Pennsylvania toward the end of September to investigate fruit diseases and to inspect cranberry disease work at field stations.

NEIL E. STEVENS is visiting points in North and South Carolina in connection with his studies of the dwarf disease of strawberries.

W. W. GILBERT is investigating an unusual trouble in asparagus fields in the vicinity of Selkirk, N. Y. It is characterized by an abnormal amount of curling and twisting of the stalks. The unusual features of the environment which may have contributed to the damage were light frosts and cold winds during the early cutting season. The application of an unusually large amount of nitrate of soda to the beds during the cutting season may also have been a contributing factor. Mr. Gilbert will conduct experiments at Arlington with asparagus from these fields.

FREEMAN WEISS spent several days at the Virginia Truck Experiment Station, Norfolk, Va. inspecting the results of the past summer's work on narcissus basal rot, and conferring with station workers regarding the fall work. CHARLES GREY, who assisted Dr. Weiss during the past summer in the conduct of experiments on diseases of ornamentals, has resigned in order to continue his studies at the University of Maryland.

CARL E. SCHUSTER has been appointed as horticulturist, and will be occupied with nut investigations in the Northwest. Prior to this time Mr. Schuster has served as agent for the office at the Oregon Agricultural Experiment Station, in connection with small fruit production investigations.

HERBERT J. DODD has been appointed as scientific aid to assist E. A. SIEGLER in the crown gall and pear blight investigations.

THE OFFICE OF HORTICULTURAL CROPS AND DISEASES

S E M I - M O N T H L Y N E W S L E T T E R.

The Official Organ of the Office of Horticultural Crops and Diseases, Bureau of Plant Industry, United States Department of Agriculture.

John A. Ferrall, Editor.

All material contained in this NEWS LETTER is confidential and is not for publication without the prior approval of the Office of Horticultural Crops and Diseases.

Vol. I. Washington D. C., October 15, 1929 No. 16

PROGENY PEACH TREES. A recent study at the U. S. Cotton Field Station, Shafter, California, in connection with the experiments being conducted at that station by the Office of Horticultural Crops and Diseases, of the first planted progeny peach trees that were propagated from limb variations of otherwise normal trees shows that the characteristics of the parent limb variations have been transmitted through bud propagation in every instance. These trees are now in their "third leaf" and most of them produced a few fruits this year. Seventeen striking limb variations and five tree variations were propagated together with normal branches from the same parent trees.

As a rule, four progeny trees of the limb variation and four trees of the normal form make up each progeny test. The limb variations in this set were selected mainly on account of marked differences from the normal in fruit characters, e. g. time of ripening, size, shape, color, and relative size of the seeds. A few of them were distinguished from the normal by reason of leaf characters, mainly in shape, size, and number of leaves.

While it is too early to evaluate the commercial possibilities of this first fruiting of the progenies of the bud variations, it seems probable that some of them are better suited for canning purposes than the parent forms.

These progeny trees together with others that have been propagated from striking limb variations discovered during the past three years will constitute an interesting lot of material for the study of the phenomenon of bud variations in canning peach varieties.

--- A. D. SHAMEL

CROP YIELDS BELOW THE AVERAGE. The October 1 report on the agricultural situation, issued by the Bureau of Agricultural Economics of the U. S. Department of Agriculture, estimates that the total yield of crops this year will run about six per cent below the ten-year average, chiefly because of the severe drought during most of the summer.

"Effects of the dry season," says the report," are evident among the vegetable crops. The potato crop is estimated at about 350,000,000 bushels, which is one of the smallest crops in ten years. Total carlot shipments of this season's fruits and vegetables, through August and September, ranged about 15 per cent smaller than last year....The commercial apple crop was forecast last month at 29,500,000 barrels, which is about 6,000,000 barrels less than a year ago."

CALIFORNIA CITRUS EXPORTS. The Los Angeles Chamber of Commerce reports that California's Citrus fruits have become so popular abroad that since the introduction of refrigerator space the delivery of this fruit has met with great success and last year there was exported through the port of Los Angeles some 400,000 standard boxes, valued at about $2,000,000.00 There was also exported some 80,000 gallons of Citrus fruit juice (valued at $175,000) together with large quantities of orange and lemon oil made from the peelings; orange marmalade, etc.

AMERICAN APPLES ABROAD. An editorial in SUCCESSFUL FARMING for October (quoted in the Department's DAILY DIGEST) says: "Four hundred car loads of Yakima, Washington, apples were sold to London, England, by telephone. This was only possible because the apples of the Yakima district are graded by their cooperative shipping associations. The London purchaser did not need to see them. The greatest need of agriculture is to establish the confidence of consumers for every farm product; and that will only come through established standard grades. Individually the producers can not do this. Cooperatively they can--and experience is proving that they must."

NOTES FROM THE GREELEY, COLORADO STATION.

"On the night of September 8, we had a severe frost and the temperature dropped to 28 degrees," writes W. C. Edmundson, horticulturist. "A week later, on the 15th we also had a heavy frost. These frosts killed the potato fields in most places although some of the fields in higher ground still remain partially green. Because of the heavy frosts, the potato yields in the Greeley district will be cut about one-third, these frosts together with the poor stands this year, making the Greeley production quite light. I understand that the San Luis valley crop is also much lighter than expected. Our Triumphs yielded from 350 to 380 bushels an acre but the Rurals are not running over 240. Some growers report that their crop is not yielding over 120 bushels per acre. The soil is wet, making harvesting difficult."

PRESQUE ISLE, MAINE. "Several days of rain have temporarily held up potato harvesting," writes P. M. Lombard, Associate Horticulturist, under date of October 4. "The shipments have been rather heavy since harvesting operations began, which has resulted in the market being well supplied. The price has held around $3.00 per barrel, bulk, to growers.

"A large bulk has gone into storage in spite of the heavy shipments and storage space is no longer available. Harvesting operations are well advanced in this section, but there is still a considerable acreage to be harvested.

"The quality of potatoes in Aroostook this year is excellent and harvesting conditions up to Thursday were ideal.

"We finished harvesting our experimental plots on Aroostook Farm Friday, September 27. Our surplus material has been disposed of and seed stock stored. Varieties and seedlings for testing in Florida and Louisiana have been treated and tomorrow we expect to begin cutting this material with a sterilized knife. One-half of each tuber will be kept in Maine, the other shipped to Florida and Louisiana."

THAT MEXICAN "JUMPING"BEAN! At this time of the year it is not unusual to see a crowd of people outside the windows of novelty stores watching the antics of a plate of Mexican jumping beans. Many people think that it is all a joke and that there "is no such animal." But, strange to say, the beans actually jump. The jumping beans are not really beans, but are the seeds of one of the Euphorbias, a plant or shrub about 5 to 8 feet high that grows in Mexico. A moth, known as Cydia deshaisiana, lays its eggs on the developing seed and the young caterpillars that hatch from them bore into the seed and eat out the contents. By the time the caterpillars are fully grown, nothing is left but the empty shell which is prevented from breaking open by a lining of silk that the caterpillar spins. When the sun shines on the seeds, the caterpillars become active and make the movements that cause the seeds to jump, The caterpillars finally change to moths that emerge from the beans.

VEGETABLES FOR FALL USE. In its radio talks, the Department has lately been urging farmers throughout the country to give more attention to the matter of providing vegetables for fall use. This is especially important in the Southern States where the temperature is mild until well into the late fall. Plant spinach, kale, lettuce, beets, carrots, peas, beans, winter onions, and plenty of turnips, say the experts. Two or three plantings of spinach and lettuce are recommended. It should be remembered that fall grown crops mature quickly and for that reason the soil should be well prepared and fertilized in order to stimulate growth. If the ground happens to be a little dry at the time of seeding, roll or pack it firmly both before and after planting the seed.

OVER THE RADIO.

(Broadcast by W. R. Beattie, Extension Horticulturist, in connection with the National Broadcasting Company's noon-hour program.)

RABBIT VISITORS! Cool nights with a slight touch of frost are sure to whet the appetite of "Peter Rabbit" and all the other cotton tails, so that Mr. Fruit Grower had better be on his guard or he may have some of his young fruit trees girdled. Trees that are injured by rabbits can often be saved by bridge grafting, but a much better plan is to surround the trunks of the trees with heavy paper, veneer bands, or better, close-woven wire netting so that the rabbits cannot get to them.

Strips of roofing paper tied around the tree trunks with string or with copper wire are effective in keeping off rabbits, but these bands should be removed in the spring of the year, as they harbor insects. The paper bands may fit the trunks of the trees rather closely, but should extend high enough to protect the tree trunks in case of a heavily crusted or drifted snow. Wood veneer bands are used the same as paper. Wire bands consisting of one-half inch mesh woven wire are preferred to either paper or veneer bands as protectors, and are very much better. The wire protectors may be put on early in the life of the tree and allowed to remain, unless it is necessary to remove them to clean away the base of the tree. They should be considerably larger than the paper bands, and allow for an inch or two of space all around the tree trunk. The wire protectors may be imbedded two or three inches in the soil at the base of the tree and thereby form considerable protection against mice.

Throughout the Virginias, Maryland and considerable of the northeastern apple region, trees are very frequently injured during the winter by a field mouse known as the short-tailed piney woods mouse. This little rascal like Peter Rabbit has a terrible appetite, and when it does not find other food is very liable to attack young apple trees; in fact, if any trash is left around the trees for it to hide under, it will gnaw the roots of large apple trees. It is especially fond of young trees, however, and it is no uncommon sight to see a small apple tree topple over because its root system has been entirely eaten away by these little pests. Cleaning away from around the roots of the trees in the fall of the year is the surest protection from mice. In addition, the wire protectors placed two or three inches below ground and eighteen to twenty inches above ground will go a long ways toward keeping the mice away from the trunks of the trees.

The ordinary house cat, especially one that is inclined to hunt far from the house, is especially effective in controlling mice. Skunks in sections where they are native also work on field mice. Black snakes and several other species of rodent-eating snakes should be encouraged in making their homes in the orchard. The greatest injury from mice, however, occurs where trash is left around the trees.

EDITORIALLY SPEAKING.
By John A. Ferrall.

RIXFORD RETIRES! G. P. Rixford has retired! That is the word that comes to us. It marks the passing from official life of one of the most interesting members of our staff, and the absence of his well-known signature from vouchers and correspondence will seem strange. The retirement, incidentally, marks the second in Mr. Rixford's career--each from an entirely different line of work.

Gulian Pickering Rixford was born on September 21, 1838, at Higate, Vermont, which means that he has just recently celebrated his ninety-first birthday! He graduated from McGill University, Montreal, Canada, in 1864, and three years later moved to California. In the years since he has impressed his name indelibly on the records of his adopted State. From 1868 to 1876 he was on the editorial staff of the EVENING BULLETIN of San Francisco; and then served as business manager of the paper until 1889, when he decided that he had done enough work for one lifetime and retired "to take things easy".

During his connection with the BULLETIN, his great love for horticulture led him to adopt the plan of offering as premiums in increasing the circulation of the paper, seeds and plants of rare and unusual sorts that could not be secured from seed stores and nurserymen in the United States. Among other things he distributed the Casaba melon and the Telephone pea. The pet achievement of his life, perhaps, was the introduction of Smyrna figs, described in some detail in his bulletin "Smyrna Fig Culture," published as No. 732 in the Bulletin series of the United States Department of Agriculture in 1918, and still in constant demand.

Mr. Rixford continued his activities as an amateur horticulturist after his retirement and some twenty years later, in 1908, he decided that he was not actually ready for permanent retirement! So he entered the service of the U. S. Department of Agriculture in connection with the distribution of Smyrna figs and caprifigs, the introduction of the pistache nut into commercial culture, and the study of miscellaneous sub-tropical crop plants. He was then seventy years of age but his extraordinary physical vigor is illustrated by the fact that in his twenty-one years of service in the office he has taken very little annual leave and practically no sick leave until the past summer when a field trip during one of the intensely hot spells of weather proved a little too much for his strength and, I judge, influenced his decision to retire.

For some years past he has owned a small subtropical ranch---his "little farm" he always calls it--in the foothills near Los Altos, Calif. where he has spent his Sundays and holidays testing out such things as figs, olives, lemons, pomegranates, persimmons, passion fruit, guava, feijoa, the Chinese lychee, and the like. He is undoubtedly planning to "retire" to this little farm.

Good-bye, G. P.---but officially, not personally!

MAIL TRANSPORTATION REQUESTS WHEN USED! It is the practice of some of our workers to hold the carbon copies of their used transportation requests until the end of the month and then mail them to us with the reimbursement voucher. In many instances this results in delay in paying railroad vouchers since the copies of the used transportation requests are needed in checking bills and the railroad vouchers cannot be paid until the copies of the transportation requests covering trips for which charges are made in the vouchers are received.

Hereafter to avoid these delays, please send copies of transportation requests to this office as soon as they are used.

EXPENSE ACCOUNTS--ITINERARY REPORTS, SUBVOUCHERS. In a few instances itinerary reports and subvouchers are sent to the office separately from the reimbursement vouchers to which they belong. As this causes delay and confusion in auditing the vouchers and passing them for payment, it is urged that itinerary reports and subvouchers be sent to us with the vouchers to which they belong.

And, of course, accounts should be rendered on a monthly basis and sent in to us as soon after the close of the month as practicable.

CONTRACTS--FISCAL YEARS. The Comptroller General has ruled (A-27844, 9 Comp. Gen. p.6) that under an annual appropriation available for the construction of an irrigation dam, etc. the acceptance of a proposal for delivery of material therefor during a period of 3.5 fiscal years is not authorized unless such entire quantity is needed on the particular job and the appropriation available at the time the contract is made is adequate for the entire purchase.

MODIFICATION OF BIDS. He also holds that there is no authority to permit a bidder to modify his proposal (which failed to comply absolutely with the specification) after the bids have been opened, when other bids received do comply with the specifications and are reasonable in price. A Bureau has asked permission to permit the low bidder, who had qualified his bid, to withdraw the qualification.

Copies of these rulings may be secured from Mr. Swartz.

WASHINGTON, INDUSTRIAL EXPOSITION. Mr. R. M. Reese, Chief Clerk of the Department, has advised us that free tickets for the Fifth Annual Industrial Exposition of the Washington, D. C. Chamber of Commerce are available at his office. The Exposition is to be held in the Washington Auditorium October 21-26,1929, and the Department has an interesting exhibit.

NOW, WHERE HE MADE HIS MISTAKE WAS IN--
(Extracts from letters of suspension, enabling you to profit from the other fellow's losses.)

"Auto mileage during the period from September 6 to September 27, $42.00, is suspended, as authority for the use of a personally-owned automobile was not granted you until September 29." Do not use a personally-owned automobile and expect to secureqreimbursement unless authority for its use is specifically included in your letter of authorization.

"September 18, 95c from charge of $1.20 for laundry, suspended as excess subsistence during the period from September 1 to 22, 1929. The voucher shows that on September 16 you claimed $3.00 per diem and charged lodging at $4.00, total $7.00; on September 17, your subsistence expenses less laundry totalled $5.80; and on September 18, $6.95, leaving a leeway of only 25c for laundry charges.

"September 1, subvoucher 6, laundry 90c, suspended as Par.58 of the Travel Regulations prohibits the bringing forward of laundry charges of previous trips or periods."

"September 23, laundry, 90c, suspended as the charge was not supported by a subvoucher as required by Paragraph 95-i, Travel Regulations.

"September 26, breakfast 60c, lunch 60c, en route from _____ to _____ suspended, as your letter of authorization provides for subsistence expenses only at _____, and your itinerary report shows that you left there by automobile at 5:30 a.m. on September 26."

"Excess cost of Pullman accomodations from Los Angeles, Calif. to Washington, D. C. suspended on account of stop-over at Grand Junction, Colo; for the purpose of taking leave, $2.70. The voucher shows that transportation requests Nos. _____ were used for upper berth from Los Angeles to Salt Lake City; lower from Salt Lake to Grand Junction; and lower from there to Washington, D. C. at a total cost of $33.08, while the total allowed by the Comptroller General is the through upper berth rate from Los Angeles to Washington plus the difference between the upper and lower rates for the portion of your trip on which the lower was used. This method of computation gives the maximum allowable as $30.38."

"There is a suspension of 31c from charges totalling $10.51 for laundry from August 1 to September 20, as the maximum allowable at 20c a day is $10.20. (See Par. 58, Travel Regulations.)"

IN A LIGHTER VEIN.

The younger members of the botanical society had formed a social club which met every Monday evening. Among the rules of the new organization was one to the effect that any man asking a question in the rooms that he could not answer himself, if called upon, should pay a fine of $5.00. These fines went into the entertainment fund. One evening Callahem asked this one: "Why doesn't a ground squirrel leave any dirt around the top of the hole when he digs it?"

After some guessing the members called upon Cal to answer his own question.

"It's easy," he said," readily. "The squirrel starts from the bottom and digs up."

"That's all very well," declared Madison. "But how does the squirrel get to the bottom?"

"Well," said Cal, trying to repress a smile, "that is your question!"

Madison paid.

REVENGE!

I wish I was a crow's egg
Away up in a tree,
A-sitting in my little nest
As bad as bad could be.
I wish a little boy'd come
And look at me with glee,
Then I would bust my little self
And cover him with me !

---John Barnes Wells

NOW, THERE WAS AN IRISHMAN--

Yes, there was an Irishman--and a Jew. The Irishman wanted to know why the Jews were so smart.

"It is because we eat a certain kind of fish--but that's a secret," declared his Jewish friend.

The Irishman's curiosity was excited and he expressed a desire to secure one of the fish. After some hesitation the Jew agreed to get him one for five dollars, on a promise of absolute secrecy. After more hesitation, the Irishman paid the five dollars and that afternoon the Jew delivered the fish. Unwrapping the package the Irishman found a small dried fish. He bit into it.

"Why," he declared indignantly, "this is nothing but a smoked herring!"

"See!" cried the Jew, edging closer to the door. "See--you're getting smart already!"

OUR GRAPE EXPERTS CAN MATCH THIS!--A New York laboratory, according to the BOSTON HERALD, takes plain cornstalks, puts them through a special process, and in fifteen minutes they come out as stiff as a board. By familiarity with certain other corn products, it adds, you can achieve approximately the same result yourself.

PERSONAL MENTION:

J. R. MAGNESS, principal pomologist, left Washington, D. C. on October 6 for a trip throughtthe south in the interest of pecan production work. At Albany, Georgia, he will confer with J. L. Pelham, H. L. Crane, and the pecan growers of that section. From Albany Dr. Magness will go to Shreveport, Louisiana, where he will meet Dr. Auchter and confer with B. G. Sitton on pecan work. Dr. Auchter and Dr. Magness will then go to Orlando, Florida.

VICTOR R. BOSWELL in company with W. C. Edmundson of Greeley, Colorado, C. E. Myers of Pennsylvania State College, and J. E. Knott of Cornell University, visited the cabbage variety plots in Charge of Dr. J. C. Walker at Racine, Wisconsin, the middle of September.

DR. H. S. FAWCETT, vice-president of the American Phytopathological Society and plant pathologist of the Citrus Experiment Station, Riverside, California, was in Washington on October 1 and 2, preparatory to departing October 5 for his sabbatical year, during which time he will investigate the diseases of Citrus and date palms in the Mediterranean countries and, if time permits, will extend his studies to include China, Japan and the Orient.

W. A. WHITNEY, reports that at the opening meeting of the Botanical Society of Washington for the new year Dr. George M. Darrow of the office of Horticultural Crops and Diseases was elected vice-president. Dr. H. B. Humphrey is president; David Griffiths, representative of the society to the Washington (D.C.) Academy of Sciences; L. H. Flint, recording secretary; N. R. Smith, corresponding secretary; and Mrs. Marion Griffiths Zehner, treasurer. The speakers of the evening were Dr. S.C.S. Scofield, who discussed "The Effect of Boron on Citrus in California," and Dr. E. B. Lambert, who reviewed his "Studies on the Relation of Temperature to the Growth, Parasitism, Thermal Death Point, and Control of Mycogone perniciosa.

F. L. GOLL, who is representing the Department at the Ibero-American Exposition at Seville, Spain, attended the International Congress of Tropical and Subtropical agriculture and the International Coffee Congress held in Seville recently. Mr. Goll will join a tour through southern Spain to observe cotton, potato, cane sugar, bananas, olives, d date palms, and rice plantations.

GEORGE M. DARROW visited points in Maryland and Delaware early in October to examine plantings of the Blakemore strawberry in nurseries.

L. L. HARTER and W. A. WHITNEY report that much of the lima bean seed planted this spring gave a very poor stand and in some cases the fields were plowed up.

A survey of the conditions revealed a situation serious enough to justify investigation and consequently an inspection was made of some of the lima bean fields preliminary to making more extended study of the problem. Samples of seed which had given a poor stand in the field were collected and subjected to a thorough examination.

The results of these studies revealed the fact that there was a close correlation between the amount of cracked or mutilated seed and germination; that is, those seed lots having the highest percentage of damaged seed gave the poorest stand of plants. It is interesting to know that the percentage of cracked seed varied from 50 to 82 in the different lots. In some cases the cracking of the seed was slight, but in many others the cotyledons were fractured and the embryo mutilated so that a normal plant would not develop, if germination should take place at all.

While unfavorable weather conditions immediately following planting; the seed-corn maggot, and soil-borne organisms may have contributed something to the loss of stand, germination tests where these factors were eliminated or reduced to a minimum gave low percentage of viable seed. Furthermore, no symptoms of seed-borne parasites have thus far developed in any of the samples examined.

FREEMAN WEISS has just completed the season's work on the investigation of narcissus diseases, with particular emphasis on the basal rot of narcissus. Experiments conducted in the sections where narcissus are grown on a large scale commercially, namely, Virginia and Long Island, have shown that under a moderately low, uniform storage temperature the amount of rot in properly cured bulbs can be held to a negligible per cent. The use of cold storage for this purpose has been found feasible both for controlling rot and for staisfactory development of flower buds. Several narcissus growers are planning to construct special storage houses next year for artificial control of temperature and humidity. Disinfection of planting stock in various ways has shown increase of 20-40 per cent. in the yield of salable bulbs over untreated stock.

E. A. SIEGLER is visiting points in Washington, Oregon and California in connection with an investigation of crown gall of apples and other nursery stock, particularly of seedling stocks.

LOUIS C. C. KRIEGER visited Baltimore October 5 to secure scientific apparatus for use in connection with special investigations in the vegetable variety work.

THE OFFICE OF HORTICULTURAL CROPS AND DISEASES.

S E M I - M O N T H L Y N E W S L E T T E R.

The Official Organ of the Office of Horticultural Crops and Diseases, Bureau of Plant Industry, United States Department of Agriculture.

John A Ferrall, Editor.

All material contained in this NEWS LETTER is confidential and is not for publication without prior approval of the Office of Horticultural Crops and Diseases.

Vol. I. Washington, D. C., November 1, 1929 No. 17

EDWIN EMERY SLOSSON
June 7, 1865-
October 15, 1929.

In the death of Dr. E. E. Slosson, horticulture--and science in general and chemistry in particular--has lost one of its most valuable men. Many there have been who have labored at their appointed tasks in their restricted scientific fields, but Doctor Slosson, a chemist himself of no mean ability, was the first to labor in the cause of science from the standpoint of the man in the streets. Doctor Slosson's scientific endeavors may in the future be eclipsed by the work of others, but his writings will always shine forth as models for those who would translate the findings of the scientific world into terms understandable by the layman.

With the endowment of Science Service by the late Mr. E. S. Scripps, Doctor Slosson was made director after a brilliant career as professor of chemistry inthe University of Wyoming and, for seventeen years, literary editor of THE INDEPENDENT. Among the best known works of Doctor Slosson are "Great American Universities" (1910), "Major Chemistry"(1917), "Easy Lessons in Einstein" (1920), "The American Spirit in Education" (1921), "Plots and Personalities" (1922), "Chats on Science" (1923), and "Sermons of a Chemist" (1925).

As Dr. Vernon Kellogg has so ably said, "Edwin Emery Slosson was one of those rare, outstanding combinations of scientific man, literary man, and humanist, who are occasionally produced for our good. His scientific knowledge was sound, his vivacious literary style was unique, and his humanism was clearly evident in all his writing, lecturing, and contacts with his fellow men. His science never made him less a human being. His deep religious instinct never made him hesitate to accept the fundamental truths of science. Science, poetry, and religion all resided peaceably together in him and the combination made him the exceptional personality that he was. In all his activities as professor of chemistry, magazine editor, and director of a large scientific news service, he revealed this personality. He had always a sweet philosophy and led always a full and happy life.

"We shall not see another Slosson soon. His kind comes only occasionally and each example differs in some ways from the others. Our Slosson will never be crowded from our memory, however conspicuous any of his successors may become."

--W. A. WHITNEY.

HARVESTING POTATO SEEDLINGS. "The 8,000 or more seedling potatoes, produced from seed supplied by the Office of Horticultural Crops and Diseases and Dr. Krantz of the Minnesota Experiment Station, which were grown on mineral soil at Ames, Iowa, and on muck soil at Kelley and Clear Lake, Iowa, were harvested October 7 to 10" reports William Stuart, senior horticulturist. "The seedlings grown on the muck soil reached a higher stage of development than those on the mineral soil. This was probably due to several factors, among which better fertility, a higher percentage of soil moisture and a lower soil temperature were probably the most important. The superior performance of the seedlings grown on the muck soil at Kelley can be more readily visualized by a comparison of the relative number saved for trial in 1930. In order to understand the basis of this comparison it shouldbbe stated that previous to setting the plants in the field an equal division was made of the progeny from each cross, one-half being planted on the muck soil and the other lot on the mineral soil. It can, therefore, be assumed that each lot possessed approximately the same possibilities of development and that selections made on the basis of such performance may be regarded as indicative of environmental influence.

"In examining our data it is found that 105 selections were made from the muck-grown plants as compared with 35 from those on mineral soil. These selections were made from approximately 4,000 plants produced from the Department seed.

"A much larger number of selections were made by Mr. McCall of the Iowa station from the plants produced from Minnesota seed.

"Six of the more promising Department seedlings of 1913, 1921, 1923 and 1924, which were grown at Clear Lake, Iowa, and harvested on October 10, were found to have made a satisfactory yield. One of them which had seemed the most promising from a commercial standpoint at Presque Isle, Maine, also proved the most desirable of the six in the muck soil at Clear Lake, and plans are now being made to grow it on a much larger scale next season in order to secure more accurate data as to its possibilities."

ORCHARD AND GARDEN COVER CROPS.

The experts of the office of Horticultural Crops and Diseases have frequently and repeatedly urged the planting of winter cover crops in orchards and gardens as a protection to the soil during the winter. In a recent talk over the radio it was emphasized that even now it is not too late to plant rye, wheat, or barley as a orchard or garden cover crop in many sections. One of the principal objections to the fall plowing of land that is to be planted in early truck crops next spring is the danger of washing and heavy loss of soil during the winter. In some sections, especially on the light sandy, and the muck soils, serious losses may result from the blowing of the soil during heavy winds, especially where the ground is not frozen or covered with snow.

Not only will the presence of cover crops largely prevent the loss of soil from washing and blowing, but the cover crop will to a degree prevent the loss of plant food through leaching of the soil. On lands that are covered with a growth of native grasses or weeds, plowing should be deferred until after the heavy winter rains are over. A decidedly different problem, however, confronts the growers in Great Plains area where the land must be kept with a loose surface and in condition to absorb every drop of moisture that falls upon it in the form of rain or snow.

PRESQUE ISLE, MAINE.

"The work at this station is practically completed for 1929," reports P. M. Lombard, associate horticulturist. "Experimental plots have been harvested, seed selected and stored and surplus material disposed of. With ideal weather for harvesting and with the able assistance of Dr. Stuart, Dr. Clark and Mr. Milstead, the work has been completed much earlier this year than usual.

"Additional material was selected for exhibition purposes and extra material has been shipped for testing in the South and in the West. Over 10,000 tubers of varieties and seedlings were indexed for testing in the south this winter.

"Weather conditions have not been so good for the past two weeks. There has been a great deal of cloudy weather with considerable rain, with snow on October 17th and 18th. For the most part the potato crop in Aroostook County is harvested and according to the report of the Bureau of Agricultural Economics quite a large part of the crop has been shipped out. The market has steadily grown stronger in spite of the heavy shipments from this State. Yesterday (October 17) as high as $4.00 per barrel was paid to growers.

USE OF HEAT FOR STERILIZING FLORIDA GRAPEFRUIT.

A "press release" from the Office of Information of the U. S. Department of Agriculture, under date of October 23, announces that the use of heat sterilization for Florida grapefruit as a condition of interstate movement is authorized in connection with packing houses in that State in administrative instructions amending the quarantine on account of the Mediterranean fruit fly, issued on that date by the Secretary of Agriculture.

"This method of protecting citrus fruit from the possibility of being a means of spreading the Mediterranean fruit fly is one of the important developments which have resulted from the research work of the Department of Agriculture in connection with the fruit fly problem and may have far-reaching usefulness in the handling of fruit. This method has already been given practical application in the treatment and marketing of some 20 carloads of fruit, and fruit thus trested has been sold at normal including top prices in northern markets.

"It should be distinctly understood that neither this nor any other method of sterilizing host fruits and vegetables from Florida is being given to infested fruit or vegetables. All fruits or vegetables in infested blocks are excluded from commercial shipment or other movement and are promptly destroyed. Sterilization is merely an added precaution over orchard and packing house inspection to eliminate any residual risk of spread of the pest. The authorization of this method of sterilizing grapefruit is released at this time in response to the earnest requests of the growers, packers and shippers concerned."

TAKING ONE'S BREATH AWAY!

The Department's experts are issuing a general warning to growers regarding garlic. In a notice headed "Get After the Garlic" the announcement goes on to say that a little garlic is all right in soup, if you like it, but the flavor in flour or milk is decidedly undesirable.

"Plowing late each fall and again in early spring," reads the warning, "followed by the growing of a thoroughly cultivated row crop, is thus far the best known method of killing wild garlic on cultivated land, but this method must be followed for three years or more in order to clean up the weed.

"Fairly deep plowing should be started in the fall in time to destroy young late-summer plants before they produce new bulbs. The garlic tops must be plowed under completely or else they will keep on growing."

EDITORIALLY SPEAKING
by John A.Ferrall

THE LIGHT UNDER THE BUSHEL!

A woman from the East, visiting California for the first time was shown a fig tree. She appeared quite skeptical as to its identity. "Why, that can't be a fig tree," she insisted. The rancher assured her that it was. "There is no doubt about it," he said; "that is a fig tree." The lady shook her head. "Well," she remarked, finally, "I certainly thought the leaves were larger than that." She was, of course, a victim of the locce publicity fig leaves have been receiving for ages.

The right kind of publicity is very desirable. A light under a bushel may shine as brightly as one outside, but nobody knows it. And no matter how efficient an individual or organization may be, if the work done is not placed in the proper light there can be no proper recognition of its merits. The Department has suffered in this respect for years, though the developing efficiency of the Office of Information is fast remedying the situation. The efforts of the NEWS LETTER to be instructive as well as informative are directed primarily toward educating the personnel concerning the work of the entire office so that Horticultural Crops and Diseases may reap the benefit of perhaps the most effective publicity of all--word-of-mouth discussion. We want you to be able to discuss intelligently with inquirers not only your own work, but the broad general lines of activity carried on by the organization--to show clearly that money appropriated for our work represents not an expenditure but an investment. It is very important that you be sure of your ground before giving out information, and that you conform to the Bureau's policies.

"It has been the studied policy of the Bureau of Plant Industry for many years that all communications with Senators and Representatives.. as well as with other branches of the Government--be over the signature of the Chief of Bureau, or if he considers it desirable over the signature of the Secretary," says B. P. I. Memo. 450. "Calls received direct from Members of Congress should be courteously handled, and information of a professional character given, a summary being sent to the Chief of Bureau. All such interviews regarding bureau work should be promptly reported to the Chief of Bureau in a memorandum outlining fully the essentials of the interview.

Where information is given over the telephone to any one it should be confirmed by letter if practicable in order to be sure that there has been no minunderstanding. Often newspaper and magazine articles appear with errors that are quite manifestly the result of mishearing over the telephone; or of inadequate data given in the absence of the specialist whose work is discussed. Confirmation by letter would avoid errors of this sort. And every effort should be made to connect inquirers with the best and most accurate source of information.

" 'The time has come, '" says Emmett Scott,
"'To talk of many things;
Of shoes--and ships--and sealing wax--
Of cabbages and kings--'
Of lots of things that we forget
That so much trouble brings!"

For example, there is the matter of using old voucher forms. WE ARE NOT PERMITTED to accept reimbursement accounts submitted on the old form, which is now obsolete; and are compelled to return such accounts for re-submittal on the approved (new) form. Therefore, if you have not already done so, PLEASE DESTROY ALL THE OLD FORMS in your possession. If you do not have a sufficient number of the new voucher forms to meet your needs, we can supply them promptly.

Destroy old Voucher Forms!

CHANGE NUMBERS ON TRANSPORTATION REQUESTS.--Some confusion has occurred in this office and in the Bureau's Office of Accounts, through the failure of some of our employees to change the letter of authorization number on copies of transportation requests which were issued under one authorization but actually used under another. It will be appreciated in cases of this kind if you will be careful to make the change on the CARBON sent to us as well as on the transportation request given to the ticket agent. Remember, then, that when you have transportation requests left over from one trip and use them later, SEE TH T THEY BEAR THE NUMBER OF THE AUTHORIZATION FOR THE ACTUAL TRIP ON HICH THEY ARE USED.

TRANSPORTATION REQUESTS USED FOR PERSONAL TRAVEL. The General Accounting Office complains that in some instances employees are using transportation requests for personal travel while away from their official stations, taking leave en route or prior to return to official stations on completion of their duty, returning to headquarters by circuitious routes, etc. "It is important that employees dismiss the idea," responsible for some of these cases, "that roundabout travel for personal reasons between points in an official itinerary is not to be deemed personal travel."

CASH PAYMENTS UNDER AUTHORIZATIONS. Dr. Taylor points out in BPI Memo, 452, that there seems to be a marked tendency to make payments in cash under authorizations. It is very important that such cash payments be kept to the absolute minimum and that wherever practicable vouchers be sent to Washington for payment in the usual manner by official checks. This applies particularly to all purchases and to employment of labor. Of course, whenever it is at all possible labor should be appointed and payments made by check from here.

OVER THE RADIO.

(Broadcast by W. R. Beattie, Extension Horticulturist, in connection with the National Broadcasting Company's noon-hour program.)

ORNAMENTAL AS WELL AS USEFUL!

The Office of Horticultural Crops and Diseases in its concern over the practical affairs of the gardener and fruit grower, does not lose sight of the importance of appearances, and its work on landscape gardening, ornamentals, etc. ranks with its major projects.

Chief Justice William Howard Taft made the following statement in replying to thirteen-year-old Helen Terwilliger relative to the wording of the oath of office as adminstered to President Hoover: "One cannot speak to the whole United States without having his words closely examined."

Not only must one be careful of his words, but in this day of automobile travel, when all eyes are turned toward the country, those of us who live on farms should pay more attention to keeping up appearances. It pays to look prosperous whether we are or not, and certain improvements around the farm home give an air of prosperity which results in greater living satisfaction. When we go out we like to be well dressed, and the farm home stands most proudly among its neighbors when it is well dressed.

Neglect of farm home surroundings is the bane of many rural districts which would otherwise be attractive. I once heard a speaker say to a group of farmers that he believed paint would be worth at least $17 a gallon if applied to the farm buildings of that particular community. Not only would painting have been an improvement to those farm buildings but the planting of shade trees, of shrubbery and hedges, to say nothing of the removal of unsightly fences and the elimination of obsolete advertisements from the barns and outbuildings would have been a decided gain.

The country offers abundant space for lawns, shade trees, gardens, and orchards, and the setting of the country home is as a rule more natural and free from detractions----In many cases the greater portion of the plantings about the farm home may consist of native trees and shrubs with possibly a few others to lend variety and contrast.

Mistakes are often made in the location of farm buildings, but many of these may be corrected as changes and improvements are made. Frequently we see an old, rickety barn as the most conspicuous object near the highway, with an attractive house in the background. The present day idea is to locate barns and outbuildings in less prominent, but more convenient places, where they will still serve the purpose for which intended. The necessary outbuildings on the farm may easily be screened by plantings of trees and shrubbery--and the final touch is to have the buildings well painted and in good repair.

IN A LIGHTER VEIN.

November

Chilly Dovebber wid his boading blast,
Dow cubs ad strips the beddow ad the lawd;
Eved October's suddy days are past--
Ad subber's gawd!

DRIVE FAST! In connection with his radio talk on the importance of keeping up appearances on the farm, Mr. Beattie told of an old farmer who had a mania for bargains. One day he attended an auction of unclaimed freight and among other things bought a barrel of house paint minus all identification marks. He took it home, stirred it thoroughly and painted his house. The result was an extremely bright yellow, out of harmony with everything in the neighborhood. Passers by stopped and looked;his friends joked about the color. He tried to tone it down and gave the house another coat, but to no purpose for the bright yellow still predominated. Finally in desperation he put up a sign on his front gate: IF YOU DON'T LIKE THE COLOR, DRIVE FAST!

That Mediterranean Fruit Fly.

10 little Medflies south of Georgia line; 1 found in Orlando, then there were 9;
9 little Medflies scattered o'er the State. Plant Board got busy, then there were 8;
8 little Medflies thought they were in Heaven. Along came the Clean-Up Squad, then there were 7;
7 little Medflies up to funny tricks. The Government joined the fight, then there were 6;
6 little Medflies healthy and all alive; the grove sprayers came along, and then there were 5;
5 little Medflies inside a sedan door; stopped at a spraying station, then there were 4;
4 little Medflies climbing up a tree; stopped to sip arsenate of lead, and then there were 3;
3 little Medflies resolved to die or do; did some rotten headwork, and then there were two;
2 little Medflies thought the day was won; which it was--for the growers, and then there was 1;
1 little Medfly raising hell around; she's the one we're after and she'll soon be found.'

----Tarpon Springs Leader.

BREAKING INTO THE MOVIES.--Apropos the success of one of our workers in getting into the moving pictures, there is the story of the motion picture director who visited a certain scientist and said, "Well, we have filmed your book, Professor, and a check for $5,000 is ready for you."

"I hardly feel that I should take it. I have seen--"

"Don't let the changes bother you," said the director. "We have to adapt books to our needs. Our scenario writers can make anything into a photoplay. What was the name of your novel?"

"That's just it," said the professor. "I made a mistake. Instead of sending you my novel, I sent you my textbook on botany."

PERSONAL MENTION.

DR. AUCHTER returned to Washington the latter part of October after completing a tour of practically all the field stations, laboratories and experimental tracts in the office.

S. P. DOOLITTLE will leave Madison, Wisconsin, where he has been located for the past six months, on or about November 1, for Sanford, Florida, to resume his work at that point and at Bradenton, on the virus diseases of vegetable crops. Dr. Doolittle will be located in Florida until about May 1.

FREEMAN WEISS, has just returned from Norfolk, Virginia, where a narcissus planting was made in which the effect of hot water treatments combined with fungicides is compared with the effect of cold fungicidal treatments. A similar test, including Dutch iris, was planted at the Coastal Plain Station in North Carolina.

WALTER T. SWINGLE, principal physiologist in charge of the Crop Physiology and Breeding Investigations unit, reached Washington, D. C. on October 23rd and will remain here for several weeks conferring with administrative officers and planning the details of his field work for the remainder of the Fiscal Year.

NEIL E. STEVENS visited Salisbury, Maryland, the latter part of October to survey strawberry fields for the occurrence of dwarf disease.

G. WEIDMAN GROFF, dean and director of the college of agriculture, Lingnan University, Honglok, Canton, China, announces his safe arrival at Canton and the resumption of his official duties at the college. Professor Groff will cooperate with the Office of Horticultural Crops and Diseases in securing propagating material of boron-resistant types of Citrus in the Orient. The special propagating equipment for use on field trips, assembled under his direction while he was in the United States last Summer, has already been shipped to China.

W. W. ALDRICH made a trip to New York City and to Jersey City, N. J. October 19th, to inspect experimental shipments of Citrus fruits.

CHARLES BROOKS traveled to Philadelphia, New York City, and Glasboro, New York late in October to confer with cooperators in regard to storage scald experiments of apples at Glasboro and to study market diseases of apples in Philadelphia, etc.

E. A. SIEGLER is on a two-months trip to points in Oregon, Washington and California for the purpose of investigating crown gall of apples and other nursery stock, particularly of seedling stocks; and to study other fruit diseases.

EUGENE MAY, Jr., who has been at Torrey Pines, California during the summer, installing special propagating equipment in the Horticultural Crops and Diseases' citrus receiving greenhouse on the grounds of the U. S. San Diego Acclimatization Garden, has returned to Washington and resumed his work as expert plant propagator at the Department Greenhouse, and as supervisor of the citrus detention station at Bethesda, Maryland.

E. H. MILSTEAD, who has been assisting with the potato harvesting work at the Presque Isle, Maine, station returned to Washington on October 20, and was an interested spectator when the Bureau of Plant Industry's bowling team won its match from the Shops outfit in the Agriculture Interbureau Duckpin League.

C. W. WAID of the marketing division of the Ohio Station Department of Agriculture was a visitor at the Washington Office on October 21.

VICTOR R. BOSWELL spent October 10th at State College, Pennsylvania, going over the collaborative cabbage variety tests at that place, which are in charge of Dr. C. E. Myers, The latter part of October, Dr. Boswell left for a trip to Florida, in company with a committee appointed by Dr. A. F. Woods, Director of Scientific Work for the Department, to inspect the Everglades developments.

R. C. WRIGHT and DEAN H. ROSE spent the latter part of October in New York City and points in New Jersey, inspecting experimental shipments of grapefruit and miscellaneous Citrus fruits.

J. H. BEATTIE visited Florence, South Carolina and Holland, Virginia, in connection with the harvesting of experimental peanuts.

FAIRFAX L. GERMAN:--On Saturday morning, October 26, 1929, German a gardener at the Arlington Experiment Farm, died in a Washington, D. C. hospital following injuries received at the Farm the previous Tuesday when he fell from the roof of one of the farm buildings while endeavoring to repair a leak which had developed during a heavy downpour of rain.

With the exception of five years during the war, German had been employed by the Government since 1913. He was always willing to help in every way he could in furthering scientific research and the field experiments in general, and his practical training and experience made him extremely useful to the members of the scientific staff working at Arlington Farm. Whatever the details of the task, complex or simple, German was ready to carry out with sympathetic understanding the wishes of the investigator. His death removes from the Farm staff a most useful worker and leaves a vacancy difficult to fill.

THE OFFICE OF HORTICULTURAL CROPS AND DISEASES

S E M I - M O N T H L Y N E W S L E T T E R

The Official Organ of the Office of Horticultural Crops and Diseases, Bureau of Plant Industry, United States Department of Agriculture.

John A. Ferrall, Editor

All material contained in this NEWS LETTER is confidential and is not for publication without the prior approval of the Office of Horticultural Crops and Diseases.

Vol. I. Washington, D. C., November 15, 1929 No. 18

FIRST LADY VISITS THE CHRYSANTHEMUM SHOW.

Mrs. Herbert Hoover was among the thousands of flower lovers who visited the twenty eighth annual chrysanthemum show at the Department's greenhouse in Washington. She was accompanied by Mrs. Charles G. Dawes, wife of the Ambassador to Great Britain. As it happened the Japanese Ambassador and Mme. Debuchi were viewing the flowers at the same time and joined the White House party which was conducted by Mrs. Arthur M. Hyde, wife of the Secretary of Agriculture. Two of the most beautiful of the new seedling chrysanthemums were named by Mrs. Hyde in honor of the President and his wife--a large majenta bloom for the President, and an attractive orange cinnamon flower for Mrs. Hoover. More than ten thousand people viewed the exhibit the first three days.

There were some eight hundred varieties in the display but the sensation of the exhibit was a Japanese chrysanthemum with 300 blooms. This plant, of the Smith's sensational variety, was allowed to flower riotously without snipping off the buds to get one enormous bloom, as in the usual greenhouse practice with Japanese chrysanthemums. The Washington Florists' Club, which visited the show in a body, voted unanimously to award to the Department a "certificate of merit for unusually fine flowers and excellent display."

Specialists in chrysanthemums, some of whom can actually spell the word without looking in the dictionary, were on hand to explain the method by which the Department produces new seedlings, and to answer questions concerning the exhibit. When the show ended, the blooms were cut from the more than, 1,000 plants and distributed to the hospitals, homes for the aged, etc. of the city.

PHONY PEACH DISEASE Quarantine. An amendment to the phony peach disease quarantine, effective November 1, adds nineteen counties in Georgia and six in Alabama. "The new infections in northern Georgia and northeastern Alabama," says a Department press release, "were found by the inspectors engaged in the eradication work. Intensive work was started in northern and northwestern Georgia with the intention of completely eliminating the phony peach disease from the outlying areas of infection at the earliest possible date...The work so far has included a substantially complete survey of the commercial orchards and reveals only a small number of recent infections. The Bureau plans to continue the eradication work by broadening the surveys to cover dooryard and roadside peach trees and to extend the territory inward toward the center of infection as the work progresses.

In order to protect the zone in which the infection is slight and where intensive eradication operations are in progress, the regulated areas will be divided into two sections--the "generally infected area" and "slightly infected area." The movement of peach nursery stock and other restricted articles from either area to outside points and from one area to the other will be prohibited except under permit.

The "generally infected area" includes Lee and Chambers counties in Alabama, and a large district in central Georgia extending from Fulton and Jackson counties on the north to Quitman, Mitchell and Laurens counties on the South. The "lightly infected area" embraces Calhoun, Cherokee, Cleburne, DeKalb and Tuscaloosa counties in Alabama, and Banks, Bartow, Campbell, Carroll, Chattooga, Cherokee, Cobb, Dade, Douglas, Floyd, Haversham, Heralson, Heard, Milton, Paulding, Polk, Walker and Whitefield, in Georgia. All these counties, except Chattooga, are now added to the regulated area for the first time.

STRAWBERRIES FOR CANNING. On October 26, strawberries canned in Michigan and some canned at Arlington Farm, Virginia, were opened up to compare canning qualities of the different seedlings and with the commercial pack. At least five varieties were superior to the commercial pack, although only one is considered sufficiently outstanding to be given extensive field trial.

STANDARD CONTAINER ACT. The Department's representatives called attention, during the farm and home radio hour recently, to the fact that the Standard Container Act of 1928 became effective November 1. This act establishes standard sizes for hampers, round stave baskets and splint or market baskets. Straight side or tub baskets are classed either as hampers or round stave baskets, depending on the method of construction.

It is now illegal to manufacture, sell, or ship, or to offer for sale or shipment, hampers, round stave baskets, or splint baskets which do not comply with this law. Those violating the law may be prosecuted and their baskets seized. Some of the common sizes of baskets made illegal by this law are the 10-quart splint basket, the 10-quart "high hat" basket, the 14-quart peach basket, and the 28-quart hamper. It will be illegal to use these or other non-standard baskets after November 1, 1929, even if they were made and purchased before that date. Marking a non-standard basket with the weight of the commodity makes no difference--its use is still contrary to law.

This Standard Container Act of 1928 is a weights and measure law and as such affects shipments and sales within a State as well as interstate transactions. Growers are warned not to use non-standard sizes in making sales, deliveries, or shipments of fruits or vegetables.

FRUIT AND VEGETABLE MARKET. A study of the origin and distribution of the 18 principal fresh fruits and vegetables produced in this country during 1928 shows, according to the Bureau of Railway Economics, that New York City constitutes the largest market in the United States for these products, more than 125,500 cars being needed. Chicago ranked second with 64,410 cars; Boston, 36,839; Philadelphia, 34,121; Detroit, 23,526; and Pittsburg, 21,535.

California was the largest contributor to the supply of fresh fruits and vegetables unloaded in the 66 markets covered by the study, furnishing 184,225 carloads. Florida supplied 57,895; New York 33,861; Washington, 32,191; Virginia, 27,553; Maine, 24,600; Georgia, 24,509; Texas, 20,377; and Idaho, 17,303 carloads. The report states that the unloads originating in these nine States represented 71 per cent of the total unloads in the 66 markets.

SUBSISTENCE--PER DIEMS--HOLIDAYS. The Comptroller General has ruled that Par. 45 (b) of the Standardized Government Travel Regulations has reference to the beginning and termination of per diem payments when questions of leave of absence are involved. An employee in travel status on a per diem basis who is not required to perform duty on Sundays and holidays is entitled to his full per diem allowance notwithstanding he may be absent from his temporary duty station on such days for personal reasons.

The temporary recall of an employee in a travel status at Baltimore, Maryland, to his headquarters at Washington, D. C. for a conference at 9 a.m. on a specified date, before the completion of his official duties for which he was directed to perform travel, did not finally terminate his travel status but operated as a suspension thereof for the time actually necessary to return to headquarters to be present at the hour set for the conference and as this was possible and was accomplished by leaving Baltimore at 7 a.m. the day of the conference, rather than the night before, the employee is entitled to a full per diem for the day preceding the conference.

CONTRACTS--DELAYS--DAMAGES. Where the advertisement for bids had informed prospective bidders that time of delivery would be considered an important factor in making the award and a higher bidder was awarded the contract because he proposed to make delivery within a shorter period of time than the low bidder, and the contractors was delayed in delivery, there will be deducted from the contract price a proportionate amount of the difference between the low bid and the accepted bid based on the ratio between the number of days' delay in making delivery to the difference in time stated in the accepted figure and the low figure.

CLASSIFICATION OF CIVILIAN EMPLOYEES TRANSFERRED FROM SERVICE TO SERVICE. Under exception to the average provision appearing in the annual appropriation acts and Section 10 of the original classification act, an employee may be transferred without loss of salary from one service to another service as defined by the original classification; i.e. from PS-5 to CAF-12. The rule announced in 4 Comp. Gen. 493, 498, question and answer 20, and followed in 5 Comp. Gen. 560, that such transfers should be considered as new appointments requiring payment initially of the minimum salary rate of the grade in the service to which transferred, will no longer be followed.

SUSPENSIONS: STOP ! LOOK ! AND LISTEN !

ELECTRIC LIGHT BULBS. Mr. F. E. Meloy, assistant in charge of property, calls attention to the fact that the General Accounting Office has suspended a number of vouchers covering purchase of electric light bulbs in the field from dealers other than those listed in the General Schedule of Supplies. The contract for the present fiscal year is for supplying all electric light bulbs--used by the field service as well as those services located in Washington, D. C.

"To avoid such suspensions purchases of electric light bulbs, except in cases of emergency, should be made either direct from the contractors listed in the General Schedule of Supplies for furnishing such articles, or by orders placed through your Washington office." Field station needs for electric light bulbs should be given careful consideration and advance orders placed with Mr. Swartz for your future requirements. "If under conditions that could not have been foreseen, electric bulbs are required for immediate use they may be purchased in the open market in quantities not exceeding the emergency requirements, but vouchers covering such purchases must be accompanied by statement of the conditions that made the purchase necessary."

"October 19, 28c is suspended from charge of 48 cents on 16-word telegram sent as nite letter from Lafayette, Indiana to Wooster, Ohio, as the maximum allowable for a nite message Government rate, is 20c. It appears that the telegraph company charged the commercial rate and it is suggested that in the future telegrams sent by you be marked plainly: OFFICIAL BUSINESS--Government Rate."

"October 4, State tax on four gallons of gas purchased at _____, 12c suspended, as the subvoucher was not rendered in duplicate as required by Department regulations. I am enclosing herewith a brief memorandum outlining the requirements for rendering duplicate subvouchers and white vouchers where the price of gas includes the tax."

"A charge of $2.00 for cleaning and pressing suit on October 3, while en route from _____ to _____ is suspended as the charge was not supported by a subvoucher as required by Paragraph 95-C, Travel Regulations."

OVER THE RADIO

(Broadcast by W. R. Beattie, Extention Horticulturist, in connection with the National Broadcasting Company's noon-hour program.

BEFORE WINTER COMES. Now is the time to be thinking of things that should be done around the home before winter. The walks about the house or between the house and the barn may be broken in places and need a little patching. There may be places in the lawn where the grass is dead and where a little grass seed should be sprinkled or a piece of sod fitted into the space. Possibly the clothes-line posts may need repairing, too; new posts and wires may be required. If the garden gate is off the hinges or the garden fence in need of repairs, now is a good time to make these repairs, because you will not have time to do the work next spring. The fence rows around the garden should be cleaned up and the weeds and all trash either burned or carted away. If the roof of the poultry house leaks, better repair it before bad weather sets in. And perhaps the poultry yard fence needs a few new posts or new wire?

It is usually difficult to secure good soil for potting flowers or for starting early vegetable plants in the spring, so it is a good plan to make a compost heap. Use four wheelbarrow loads or four parts of sods, two parts of sharp sand, and two parts of rotted manure, and if you can get it, one part of leaf mold. Pile these together in the corner of the garden and add a little water, then in about two weeks take a sharp spade or hoe and chop the pile so that the ingredients will be thoroughly mixed and the sods cut in small pieces. Make the pile slighely flat on top so that the rain will keep it moistened, and by next spring you will have a nice lot of potting soil suitable for starting early plants. Turning the pile over three or four times at intervals of two or three weeks will help reduce the materials to a good grade of potting soil. In the dry land sections, be sure and add water each time that the pile of soil is turned.

Many have the idea that fruit should not be pruned until late in the winter. Pruning can be done at any time after the leaves fall and by doing it early advantage can be taken of good weather, in addition to getting the work off your hands before early spring work starts.

EDITORIALLY SPEAKING
By John A. Ferrall

Miss Belle C. Saunders, who died last month, was a highly regarded member of the Department's staff for more than 40 years. Probably few of those who knew her, however, realized that she was the daughter of the late William Saunders who, as superintendent of gardens and grounds, played such an important part in connection with the introduction of the navel orange. She entered the service as his secretary in 1889, some twelve years before the Bureau of Plant Industry was organized.

Shortly before her death she sent me a pamphlet, found among her father's papers, containing a speech on agriculture delivered in the United States Senate in 1879. "We have," said the speaker, "what is called a Department of Agriculture, with a commissioner at its head, whose salary is $3,000, and the next higher salary is $1,900." On this she had written: "Here's the text for a Thanksgiving editorial for the NEWS LETTER. Aren't you thankful that things are better now?"

The purchasing power of the dollar was a good bit more in 1879 than it is now, but I judge that we still have some grounds for thankfulness. Theoretically, we should be thankful so long as there is a single person with whom we would not willingly change places; practically, blessings are like good health--we never appreciate them until they are gone. Hence the Recording Angel finds that 99-77/100% of the prayers offered up daily are petitions; the remainder prayers of thanksgiving.

Our attitude is very similar to that of the ten-year-old boy described in a farm paper some months ago. He overheard a conversation about certain bills for services that had to be paid. It gave him an idea, and the next morning his mother found at her plate a detailed statement: "Mother owes Willie for carrying coal six times, 20c; for bringing water lots of times, 30c; for going ten errands, 15c; and for being good twice, 10c--total, 75c." His mother read the bill but said nothing at the time. At dinner, however, Willie found the 75c on his plate and with it another bill which read: "Willie owes mother for his happy home for ten years, nothing; for his food and clothing, nothing; for nursing him in a long illness, nothing; for being good to him, nothing--total, nothing." When Willie saw the 75c he was pleased, but when he read his mother's note his eyes grew dim and his lips quivered a little. Then he took the money back to her, threw his arms around her neck and begged that she would let him do lots of things for her.

IN A LIGHTER VEIN.

BENE DICTUM, BENEDICTE! A distinguished collaborator of the office has sent to his friends in Washington an excellent bit of advice by the good old monk, St. Benedict in the form of a broadside, printed by John Henry Nash of San Francisco, one of the famous printers of the United States, for distribution to his personal friends, not for sale.
The excerpt reads:

"If any pilgrim monk come from distant parts, if with wish as a guest to dwell in the monastery, and will be content with the customs which he finds in the place, and do not perchance by his lavishness disturb the monastery, but is simply content with what he finds, he shall be received, for as long a time as he desires. If, indeed, he find fault with anything, or expose it, reasonably, and with humility of charity, the Abbot shall discuss it prudently, lest perchance God has sent him for this very thing. But, if he have been found gossipy and contumacious in the time of his sojourn as a guest, not only ought he not to be joined to the body of the monastery, but also it shall be said to him, honestly, that he must depart. If he does not go, let two stoutmonks, in the name of God, explain the matter to him.

--St. Benedict.

How dear to my heart is the old yellow pumpkin,
When orchards are barren of stuffin' for pies.
When peaches and apples have both been a failure,
And berries of no kind have greeted our eyes.
How fondly we turn to the fruit of the cornfield,
The fruit that our children are taught to despise
The old yellow pumpkin, the mud-covered pumpkin,
The big yellow pumpkin that makes such good pies!

PROGRESS OF SCIENCE. The visiting scientist has been discussing the progress of research. "And now," he said, "I have tried to make these problems, abstruse as they may appear, and involving in their solution the best thought and closest analysis and the most profound investigations of the ablest scientific men for many years--I have tried , I say, to make them seem comparatively simple and easily understood, in the light of modern knowledge. Before I close, I shall be glad to answer any questions that may occur to you as to points that appear to need clearing up or that may have been overlooked." There was silence for a few moments and then an anxious looking man in the back of the hall stood up. "I would take it as a favor," he said, "if you could tell me whether science has produced as yet any reliable and certain cure for warts."

PERSONAL MENTION.

J. R. MAGNESS, principal pomologist, left Washington November 5 for a visit to various stations in the west. He gave a talk before the Oregon State Horticultural Society at Medford on November 14 on the relation of leaf area to size and quality of pears. He is expected to return to Washington early in December.

F. L. MULFORD left Nashville, Tennessee, November 12 for Fort Valley and other points in Georgia. At Fort Valley he will assist in developing plans for improving the surroundings of the Peach Disease Field Laboratory at that place.

W. A. WHITNEY has returned from a short trip to Charleston, S. C. and other bean-growing sections of South Carolina and North Carolina, where a survey was made of diseases that develop under favorable weather conditions. Anthracnose and powdery mildew are very prevalent and have resulted in a considerable loss to shippers. Mosaic and bacterial blight are among those present, but are not causing any appreciable damage.

W. J. ZAUMEYER has completed his season's work on bean diseases in the west, returning to Washington October 31. Experimental plots for the study of bean diseases as they occur in the west were grown at Madison, Wisconsin, Greeley, Colorado, and Twin Falls, Idaho. A bean-disease survey was made of all the bean-growing sections of the west.

A. J. SHAMBLIN, associate horticulturist and superintendent of the U. S. Experiment Date Garden at Indio, California, is now devoting full time to the date scale eradication work with the Plant Quarantine and Control Administration. The date palms at the Indio garden have just been given a severe pruning to facilitate the work of the scale inspectors.

HARLEY L. CRANE was recently appointed an horticulturist to assist in pecan investigations, and will be located at the Albany, Georgia field station, JESSE L. PELHAM, who was formerly located at the Albany station has been transferred to Robson, La., where his address will be in care of the U. S. Pecan Field Station, Robson, La.

J. C. WALKER, in charge of work on cabbage and onion diseases, with headquarters at Madison, Wisconsin, visited Washington recently.

S. C. MASON, senior horticulturist, is visiting the date plantations of the Coachella Valley in California, assembling data in connection with his studies of the varietal differences in date palms, and the working out of methods for identifying date varieties by their botanical characters.

DAVID GRIFFITHS plans to leave shortly for North Carolina in connection with his supervision of the work on bulbs. He expects to stop at Raleigh to delivery a lecture before the Raleigh Garden Club on bulb propagation.

T. RALPH ROBINSON, who has been making a tour of Florida and the Gulf States inspecting tests of Citrus varieties, hybrids and stock plants, especially the Wase Satsuma orange, has returned to Washington.

HENRY F. BAIN visited Chicago to take records on the cranberry storage experiments now in progress there.

E. S. SCHULTZ visited Washington early in the month to confer with Dr. Auchter and other Bureau officials in connection with problems relating to potato virus disease and curly top investigations of truck crops.

GEORGE M. DARROW has been visiting points in North Carolina in connection with the supervision of the planting of seedling strawberries and to examine strawberry fields. He rogued the fields of the Blakemore and other strawberry varieties at Willard, North Carolina, for strawberry dwarf, and reports that approximately 8,500 seedling strawberries were taken by truck to Willard early in October and planted for fruiting tests at the station.

J. M. LUTZ has been transferred from Seattle, Washington, to the Arlington Farm, Virginia.

LESLIE PIERCE plans to go to Murphysboro, Illinois, late in November to give a paper on "The Control of Peach Bacterial Spot." before the Illinois Horticultural Society.

J. R. COLE, assistant pathologist, pecan disease investigations, has been transferred from Lafayette, La. to his permanent headquarters at Shreveport.

SPECIAL NOTICE: Employees are cautioned that injury of any sort occurring in line of duty must be PROMPTLY reported on the proper forms in order to insure the individual the protection provided in the Employees' Compensation Act.

THE OFFICE OF HORTICULTURAL CROPS AND DISEASES

S E M I - M O N T H L Y N E W S L E T T E R.

The Official Organ of the Office of Horticultural Crops and Diseases, Bureau of Plant Industry, United States Department of Agriculture.

John A. Ferrall, Editor

All material contained in this NEWS LETTER is confidential and is not for publication without prior approval from the Office of Horticultural Crops and Diseases.

Vol. I. Washington, D.C., December 1, 1929 No. 19

FLOWERS ENTER BANKS OF BIG BUSINESS!

Agriculture in general may be suspected of being a trifle slow to adopt the methods of "big business," but according to the NEW YORK TIMES the flower growers are beginning to sit up and take notice. It announces that the orchid nurseries started twenty-two years ago at Bound Brook, N. J., by Thomas Young, have been acquired by the Selected Industries, Inc. and the Rayburn Company, Inc., for $2,500,000. The nurseries cover fifty acres with more than thirty-five acres occupied by greenhouses which contain 135,000 flowering specimens, some of them extremely rare and valued at from $100 to $700 each. "The new owners....are planning to establish greenhouses in other parts of the country, using bulbs developed at the Bound Brook nurseries."

And, speaking of bulbs, the Office of Horticultural Crops and Diseases' experts in such matters declare that American flowering bulbs are now generally acknowledged to be just as good as those imported. Their increased popularity is responsible for a rapid development of bulb growing in the Puget Sound region, Atlantic Seaboard, South Atlantic States, and eastern Texas. "Growers in these sections," says David Griffiths, "are now producing all the narcissus bulbs the country gets, and the quality of these is fully as good as that of any bulbs ever imported."

"Proportionately greater progress is being made with lilies than with any other group. Their culture is a more recent venture than the daffodil. Already we have some lilies that are characteristically American, and foreign dealers are beginning to look to Puget Sound for Nankeen stocks. American growers will put on the market this year about 200 cases of Easter lily bulbs, while tulips are being grown in considerable acreages with very good success."

LITIGATION IMPORTANT TO FRUIT INTERESTS NOW IN PATENT OFFICE.

A Press Release from the Office of Information, under date of November 19, states that litigation of vital interest to the fruit industry is now pending in the Patent Office, Washington, D. C., This concerns the use of a dilute solution of acids or alkalis in removal of spray residue from fruits and vegetables. The Department and a California firm (Brogden & Trowbridge) have each made application for the rights.

This process, which has been extremely useful in preparing fruit for market, has been in almost constant use in various fruit regions since 1925 and the Department claims that itsswworkers first conceived and put it into practice, and has applied for a patent on the process with the avowed intention that if the patent is granted it will be dedicated to the service of the public and may be used by anyone without royalty charges or any other costs.

CACTI SENTINELS OF THE SOUTHWEST.

"The giant sahuaro cacti that stand like sentinels in the southern Arizona desert are fruit trees to the Papago Indians," declares a SCIENCE SERVICE newsbulletin concerning an article (in the JOURNAL OF HEREDITY for September, 1929) on "The Giant Cactus of Arizona" by Frank A. Thackery, Agriculturist, and A. R. Leding, formerly connected with the U. S. Field Station at Sacaton, Arizona. The paper is based on observations made in connection with the effort to find the fruit crops best suited for culture on the Indian Reservations of the Southwest, as well as to determine the best ways of utilizing the plants already found in these regions. The giant sahuaro appears to be the best source of sugar known in the desert country. The Indians make use of the fruits in preparing a syrup which they keep in sealed clay jars for use as needed, and for making preserves. The seed is used as chicken feed, and is sometimes ground into a meal which makes a nutritious cake to add to the food supply during the extended drought periods so common to the arid southwest.

LETTERS OF AUTHORIZATION.

Please use Form HC&D No. 2 (Horticultural Crops and Diseases, No. 2) when requesting amendments to letters of authorization as well as in requesting ordinary letters of authorization. It will not be possible to issue such letters or amendments without the signature of the project leader or his designated representative, on Form HC&D No. 2. If you do not happen to have a supply of this form, write to Mr. Swartz for copies.

RESPONSIBILITY OF DRIVERS OF GOVERNMENT VEHICLES; ETC.

Under date of October 29, 1929, the Acting Solicitor (C.W. Boyle) made the following answer to questions raised by Mr. Allanson. The questions follow, and are considered by Mr. Boyle in their order:

(1) Where an employee in the field drives a Government-owned vehicle on official business, what is the limit of responsibility of the Government in the matter of injury to personal property, injury to the car itself, injury to the individual, and injury to other individuals? What is the responsibility of the driver, and what protection does the Government give him? What is the responsibility of the driver's supervisor who may have specifically instructed him as to his work? Again, what is the responsibility of supervisors directing the work further up the line? I would like this matter of responsibility in all of these phases discussed both from the standpoint of whether the driver is negligent or is not negligent.

(2) What is the responsibility of the Government, the driver, and the supervisors where the truck is rented instead of Government-owned? I should like this discussed in all of the phases indicated under No.1.

(3) What is the responsibility of the Government, the driver and supervisors, where a machine is rented from the individual who is driving on a mileage basis?

---

(1) The driver of a Government-owned vehicle is personally liable and may be sued for any damages caused by reason of his negligent operation of a Government-owned vehicle to personal property, as well as to injury to individuals. The only protection afforded him by the Government are the provisions of the Act of December 28, 1922, (40 Stat. 1066), authorizing the heads of the Department to consider, ascertain adjust and determine any claim on account of damages to, or loss of privately-owned property, where the amount does not exceed $1,000, caused by the negligence of any officer or employee of the Government acting within the scope of his employment. It will be noted that this Act is limited to damages to personally owned property and it does not extend to personal injury. The owner of the property damaged could elect to sue the employee-operator in lieu of filing claim under the Act. As a practical proposition, however, this is not very apt to occur. The Act of December 28, 1922 being limited to damages to property, in the case of an accident where an automobile is damaged and an individual is hurt by a Government driver, the Secretary could certify to Congress the amount of damages to the automobile and the employee-operator would be solely liable for the personal injuries.

However, when suit is brought against an employee for acts done in the discharge of his governmental duty, it is competent for the Department as a matter of sound policy to request that the employee's defense be undertaken by the Department of Justice. This is upon the ground that employees who are not negligent or whose liability is doubtful ought to be afforded reasonable means of protection and defense against unjustifiable claims against them resulting from the discharge of their official duties.

Likewise, it would seem expedient that employees in the performance of official duties be cautioned and instructed that their public employment does not constitute a license or a justification for the commission of illegal acts which are injurious to the person or the property of another. And where it appears that there is gross or wilful negligence on the part of an employee, the disobedience to such instructions and in disregard of his ordinary legal obligations to others, he should be made to bear in full the consequences of his wrongful acts and be subjected to such disciplinary action by the Department as the case might warrant.

With regard to the responsibility of the driver's supervisor who may have specifically instructed him as to his work, assuming that such superior does not actually participate in the doing of the unlawful act, there is no liability whatsoever and this is true whether or not the driver is negligent or not. Obviously, if the immediate supervisor of the employee is not liable, the superiors of the supervisor themselves, could not be liable. This conclusion is substantially sustained by the Supreme Court in the case of Robertson v. Sichel, 127 U. S. 507, 515, 516, where it is stated:

> **A public officer or agent is not responsible for the misfeasances or positive wrongs, or for the nonfeasances, or negligences, or omissions of duty, of the sub-agents or servants or other persons properly employed by or under him, in the discharge of his official duties. Story on Agency, Sec. 319.

(2) and (3). There is no distinction between a rented automobile and one owned by an employee and used on a mileage basis, and one owned by the Government. Therefore, the questions discussed under (1) above are equally applicable to (2) and (3).

PRINTING. No expense for printing should be incurred without first taking the matter up with the Washington office and securing special authorization, for this expense, giving full description of the form to be printed, preferably sending a copy of the form. Wherever the need can not be filled satisfactorily through an order on the Government Printing Office at Washington, D. C., authority may then be granted for printing to be done in the field.

OVER THE RADIO

(Radio talks by W. R. Beattie, extension horticulturist, in connection with the National Broadcasting Company's noon-hour program.)

TRANSPLANTING TREES AND SHRUBS. Transplanting trees and shrubs is the most direct means of establishing them in new locations, and of transforming unsightly places into scenes of beauty. It is the usual method of establishing orchards, and in some cases, of reforestation. The essentials for success in transplanting trees and shrubs are first a good plant, including a well developed root system and healthy top; and moving the plants at the proper season. Deciduous trees, that is, those that shed their leaves in the fall of the year, should always be moved while they are dormant or without leaves. Evergreens should only be moved when the ground is sufficiently warm and moist to cause the plants fo form new roots.

Proper digging is another essential. Deciduous plants should be dug with a minimum injury to the roots--but it is not necessary to move any soil with them, except in the case of large trees. Evergreens should always be moved with a ball of earth about the roots.

Another point is to keep the roots covered and moist while the transfer is being made, with proper setting at the same depth at which the plants formerly grew, with the roots well spread, the moist soil brought in close contact with the roots and well firmed about them. Pruning and subsequent care of the trees and many other points about the transplanting of trees and shrubs are described in Farmers' Bulletin No. 1591, "Transplanting Trees and Shrubs," by Furman Lloyd Mulford, associate horticulturist, Office of Horticultural Crops and Diseases.

TREE PROPAGATION.

In nature, woody plants reproduce their kind most frequently by seeds; they also reproduce by root-sprouts or suckers, and by layers. Certain kinds of willows, reproduce by small twigs that become broken from the parent tree and lodge in moist soil.

Since ancient times man has employed grafts and cuttings as well as the means of propagation more commonly met in nature. Some of these operations have become more or less standardized, although they must frequently be altered to meet the widely different conditions under which trees are grown. Most farmers have occasion at one time or another to propagate, bud or graft some kind of a tree or shrub, and Guy E. Yerkes, horticulturist, has prepared in Farmers' Bulletin No. 1567--"Propagation of Trees and Shrubs," --information as to how such work should be done.

SECURE BIDS BEFORE PLACING ORDERS AMOUNTING TO MORE THAN $50.

You are reminded that the Fiscal Regulations require that bids be secured from at least three bidders if possible, preparatory to placing an order for services (other than personal) or supplies or equipment amounting to more than $50.00. Unless your letter of authorization specifies that you may secure bids, open them, and recommend acceptances to Washington, you should either request that the Washington office secure bids for you, or should ask that your authorization be amended to permit you to secure them. Whenever possible, it is preferred that you use the services of the Washington office to secure bids for you.

Invitations for bids should be sent out on Standard Form No. 33. They should be so worded as to convey a clear picture to the dealer of what is desired. Above all, there should be not the slighest variation in the language in the requests sent to the various dealers, as it is imperative that each have the same facts before him when he submits his bid.

Except in special emergencies, covered by specific authorization, all bids must be sent to Washington, where the Department Board of Awards will examine them and accept the one best meeting the Department's requirements. In nearly every case this will be the lowest bid. Your Washington office will then either draw a requisition on the dealer whose bid has been accepted, or will notify you in order that you may place the order under the authority of your letter of authorization. Under no circumstances should such an order be placed until this notification is received.

The regulations laid down by the Comptroller General concerning the necessity of securing competition are irrevocable and must be observed if you would protect yourself from personal loss, as vouchers covering such purchases cannot be passed without showing that these requirements have been complied with, or unless they are accompanied by a clear-cut and definite exigency statement showing that it was impossible to secure competition. This statement is to be signed by the employee under whose authorization the expense is incurred and is to be submitted in duplicate. A statement written on the back of the voucher is not acceptable.

We desire to do everything in our power to emphasize the importance of the various fiscal regulations, and especially to point out those, the non-observance of which may result in serious personal loss. It is believed that in doing this we are rendering a sincere service to the employee who must incur expense for the Department because to be "forewarned is to be forearmed."

EDITORIALLY SPEAKING
By John A. Ferrall.

HANDLE WITH CARE!

Years ago one of the employees of the Bureau of Animal Industry showed me a postal card received in that Bureau. It read: "I am a short coarse student at the agrl. college and want diseases of the horse." He received the report on diseases of the horse and very likely made good use of it.

It was inquiries of this character, however, that led a former Assistant Secretary to emphasize the fact that correspondence was one of the items in connection with out official work that seemed especially deserving of the label, "HANDLE WITH CARE." that we might try to appreciate the significance of even the most trivial or illiterate letter of inquiry. He urged that employees who were called on to dictate answers to inquiries try to put themselves in the place of the inquirer. "Take, for example," he said, "The letter of a boy on a little 50-acre farm situated far back from the main traveled roads, who writes on a postal card some elementary questions about crops or soil improvement. That question seems vital to the boy who asks it and we in answering it should feel a sense of how vital it is to him, for upon the way we answer it depends in some measure at least the future attitude of that boy toward the efforts we are making for the improvement of American agriculture. Certainly upon the way we answer hangs the question of whether or not that boy will ever ask us another question or ever become an active cooperator in the work we are doing."

Our constantly expanding chain of field stations, with their personnel, helps us establish close relations with many of those interested in the horticultural development of the country, but there is still a great opportunity offered us, through the letters of inquiry that reach us, to build up useful contacts and to pave the way for friendships in future years. The letters we must write afford us a splendid opportunity to gain the good will and cooperation we must have if we are to render the fullest possible service to American horticultural development.

"It is essential for the largest success of the service of the Department of Agriculture," the Assistant Secretary pointed out, "that scrupulous care be taken in handling each letter of inquiry that comes to us. It does not matter that the letter in question is scrawled upon a piece of wrapping paper, or that the question asked is foolish or trivial--it is ours to see that all reasonable effort is made to answer that question promptly and with courtesy. This Department is the servant of all of the people, and each member of the personnel owes to the people, individually as well as collectively, the fullest possible measure of service."

IN A LIGHTER VEIN.

THOSE CIVIL SERVICE EXAMINATIONS!

Once upon a time, when Civil Service rules were a bit less strict than they are now, one of the field stations had a worker who was long on practical skill but terribly short on education. The problem of getting him under Civil Servi œ was a tough one and he failed repeatedly on the examinations held for him. On one occasion he was taking the examination at the local post office and the postmaster, who was conducting it, understood the situation.

"Just put down something," he said encouragingly, as the worker sat petrified before the sheets of white paper. "Just put down anything and we'll try to get you through."

The minutes past and finally, in despair, the applicant wrote the single word "Dam" on the sheet and departed.

That evening the postmaster stopped at the station. He had the sheet in his hand. "We can't pass you," he said, more in sorrow than anger. "You've spelled it wrong!"

THE HEIGHT OF EFFICIENCY!

The height of efficiency seems to have been reached by the man who figures in a story recently told me by C. E. Gapen, chief of our Department Press Service. He says he saw a picture in a New York magazine which showed two men looking at a bronze tablet in front of a New York office which bore the following names:

WEISENKORN
WEISENKORN
WEISENKORN
WEISENKORN
WEISENKORN
&
DILL.

One of the men was saying to the other: "I imagine he's some boy, that Dill."

HORTICULTURAL PRODUCTS PREFERRED!

It was at the county fair and the farmer had persuaded his wife to sit in the stands with him and watch the races. As they sat there, a very distinguished looking man passed in front of the stands and, seeing the farmer, bowed to him.

"It's Colonel Dash," explained the farmer to his wife. "We really must have the Colonel out to dinner sometime. He's an excellent judge of horseflesh," he added.

"Listen," said the wife, emphatically, "we are not going to have that on the menu even if you do invite him."

PERSONAL MENTION.

DR. AUCHTER and GUY YERKES attended the conference of horticulturists, entomologists, plant pathologists and agricultural economists of the four States of Virginia, Maryland, West Virginia and Pennsylvania, which was held at Winchester, Virginia on Saturday, November 23. Each year investigators as listed above, who are conducting cooperative investigations relative to the fruit industry of the Shenandoah and Cumberland valleys meet and discuss the progress of their experiments. Suggestions and plans for new cooperative experiments are also presented. Much progress has already been made on cooperative projects of (a) Root Stock Studies, (b), Rosy Apple Aphis Control, (C) Orchard Economics, (d) Spray Calendar, and (e) Orchard Fertility.

At the Winchester Meeting, Dr. Auchter was elected Chairman of the meeting and Mr. Yerkes Secretary.

WM. STUART recently visited Hastings, Florida, and had an interview while there with Manager Robinson of the Hastings Potato Growers Association and Dr. L. O. Gratz, Associate Plant Pathologist of the Florida Agricultural Experiment Station, in regard to contemplated cooperative potato studies at Hastings this winter.

DAVID GRIFFITHS, senior horticulturist, has just issued (with Charles Henry Thompson, formerly assistant botanist of the Missouri Botanical Garden) a revision and enlargement of his Bureau of Plant Industry bulletin on the culture and decorative value of cacti. The new publication, issued as United States Department of Agriculture Circular No. 66, under the title "Cacti", is splendidly illustrated and contains one extremely attractive color plate.

FRANK L. GOLL, who is representing the Department at the Seville Exposition, reports an interesting tour through Andalusia and writes that he spent some time in the date producing center at Elche, Spain. Many of the palms in this region were planted by the Moors when they ruled and reigned supreme in southern Spain. He was able to secure some interesting photographs on the trip, including a few of branched date palms.

A luncheon was tendered Doctor and Mrs. L. R. Jones on November 25th at the Cosmos Club, Washington, D. C., by former students of his from the Universities of Vermont and Wisconsin, Doctor and Mrs. Jones made a brief visit to Washington while en route to Madison, Wisconsin, their home.

M. C. GOLDSWORTHY is visiting points in Washington State in connection with his investigations on perennial canker.

FRANK N. HARMON will transfer his permanent headquarters from Riverside to Shafter, California, shortly after December 1. At Shafter he will continue his investigations on Citrus and deciduous fruits.

The NEW YORK SUN recently paid the NEWS LETTER the compliment of using as the basis of a news story the editorial concerning the retirement of G. P. RIXFORD. There is a sequel to the editorial, however, which the SUN missed. Mr. Rixford so fully recovered from his illness of last summer that he asked permission to withdraw his request for retirement, and has been back at work since November 1!

W. C. EDMUNDSON attended the annual meeting of the Pacific Northwest Potato Growers' Association held at Spokane, Washington, November 20-22. He discussed while there the relation of irrigation to potato tuber development.

W. R. BARGER expects to include Arizona in his itinerary in future in connection with the work he has been doing in California on the handling and storage of American-grown dates.

J. S. WIEMAN is assisting Mr. Schuster in making a horticultural survey of the walnut and filbert orchards of Washington and Oregon.

ROY W. NIXON, associate horticulturist, stationed at the United States Experiment Date Garden, Indio, California, has been devoting considerable time to a study of the rain and humidity damage to the different varieties of dates. This study is needed to determine the sorts best suited for culture in regions where late autumn rains now cause considerable damage to the varieties at present being grown.

W. W. ALDRICH leaves early in December for Illinois, Wisconsin, Minnesota and Washington to conduct investigations on the protection of apples from freezing injury in transit.

ADMINISTRATIVE SPECIAL: Attention is invited to the fact that the certificates at the bottom of Form 1034 vouchers are to be signed by the employe under whose letter of authorization the expenses is incurred.

THE OFFICE OF HORTICULTURAL CROPS AND DISEASES

S E M I -- M O N T H L Y N E W S L E T T E R.

The Official Organ of the Office of Horticultural Crops and Diseases, Bureau of Plant Industry, United States Department of Agriculture.

John A. Ferrall, Editor

All material contained in this NEWS LETTER is confidential and is not for publication without prior approval from the Office of Horticultural Crops and Diseases.

Vol. I Washington, D. C., December 15, 1929 No. 20

RINGING OUT THE OLD YEAR. There was a man who always insisted that he was an Episcopalian. "But," protested one of his friends,"you never attend church, nor take any part in religious work--how do you figure yourself an Episcopalian?" "Well," explained the first man,"it is this way: Some years ago when I was on my vacation I happened to stray into a church and heard the minister say, 'We have left undone those things which we ought to have done; and we have done those things which we ought not to have done.' Well, sir, that fitted me exactly, and I asked somebody what church it was and he said it was the Episcopal; so ever since I have claimed to be an Episcopalian."

Probably a good many of us are Episcopalians in this sense, and the close of the year's activities is a very good time to take stock and find out through a rather searching inquiry just what we have actually been doing throughout the past year, to discover our weak points, and to determine just what changes are necessary to strengthen next year's work.

We might begin by trying to get a little better understanding of the problems of the home office, so as to be able to make its burden lighter. Probably few members of the staff other than those in the "General Service" unit at Washington have any idea, for example, of the time required in handling money matters in the office--and it is not all consumed with "money in hand" problems. We are hardly through with the estimates and their adjustments for one fiscal year before it is time to submit preliminary figures for the next succeeding year.

The final submitting of estimates is not all a matter of figures, A lot of statements have to be prepared, and prepared very carefully, They have to be concise, condensed and informing. For instance, the Bureau officers recently had their annual sessions with the Bureau of the Budget, and now the Committee hearings at the Capitol are in

progress. In anticipation of these hearings, a brief statement of from seventy-five to one hundred and fifty words concerning each major line of work had to be prepared. Each statement indicated the character of the work, what it means or what we thinks it means to the industry concerned, and why we need the appropriations requested. In other words, each statement had to justify the expenditure which is being made in connection with the work, either in showing what the public is getting for its money, or what is in prospect. We were advised that these statements were to be mimeographed and placed in the hands of Members of Congress, and that the information which the statements gave and the impressions they made on the Members of Congress would doubtless have very much to do with their attitude toward appropriating money for the work for the next fiscal year--the year beginning July 1, 1931.

This dissertation is made with an ulterior purpose, frankly admitted, and not primarily to advise the reader of the workings of the "general staff" of the office. Later, after the rush of the season's work is past, that perennial request for progress reports will be made. It will be recalled that for the past several years each request has increasingly emphasized the need of full, informing, descriptive reports giving rather detailed accounts as to how the various research members of the staff have utilized their time, and what they have actually done for the money expended. The requests have also called for concise summaries of the outstanding features of the work, the real accomplishments, or the tangible progress toward the objective that has been made during the year.

The annual progress report that is rendered from year to year on each different line of work is becoming more and more important, when well prepared, as a source of information constantly needed in the administration of the office. One very important way in which it is used has been mentioned. Congressmen frequently want to know just what and how much work the Department is doing in their respective states; the annual report of the Chief of Bureau to the Secretary consists of very brief summations of the outstanding accomplishments in the different lines of work. In these, and in other ways, the progress reports are exceedingly valuable.

As to the concise summary which each leader is asked to make of his report: It is assumed that he knows better than any one else just what constitutes the high points of his year's work, and because of that he can present a more accurate summation than can any one else. Even though the Principal Horticulturist in Charge or some one else in the General Service Unit may spend a day or two in a year with each of the different research workers, they cannot possibly become familiar with the details of the work in progress.

CERTIFIED CHRISTMAS TREES! An editorial in AMERICAN FORESTS (for November) tells of a novel plan for doing away with the reckless and destructive cutting of Christmas trees. This plan, used by the city of Denver "is working so successfully that it has been extended to other sections of Colorado and gives promise of state-wide reform in the harvesting of Christmas trees." The plan is the result of activities by the Denver Chamber of Commerce, the local Forest Service, and various civic organizations.

The plan is to certify Christmas trees. The certification of Christmas trees is not compulsory, of course, but with more and more people each year insisting upon certified trees the Christmas tree merchants are lending an ear and there has already been a decided reduction in the unrestricted cutting of Christmas trees and boughs from the mountain slopes around Denver. "With a larger and larger number of people demanding certified trees each year," says the editorial,"the merchants are demanding that their trees be cut under approved methods and bear the State certification. This strikes back at the source of all the trouble--to the man who does the reckless and wasteful cutting in the woods. It would be difficult to find a better illustration of how the public can reform the Christmas tree trade. A national demand for certified trees would cure the Christmas tree evil over night. It is to be hoped that other States will take up Colorado's plan."

CHRISTMAS HOLLY DETERIORATION IN TRANSIT, ETC. To the question, Is mistletoe a vine or a tree? the answer has been made that it is neither---that it is simply an excuse. The holly has none of the special uses of the mistletoe, but it is one of the most popular of decorative materials for the Christmas season. For this reason the experts of the office of Horticultural Crops and Diseases have been concerned over its deterioration in transit and storage.

"Cut branch holly, or holly made into wreaths for Christmas decoration," says a press release, prepared under their supervision,"is not injured by such freezing as is likely to occur in transit.

"Frequent complaints have been received of brownish discoloration of the leaves of both branch and wreath holly on the arrival at the market centers. Apparently this condition is usually attributed to freezing injury, but experimental lots that were frozen and held for twenty-four hours at temperatures ranging from zero to ten degrees below showed no apparent deterioration....Discoloration of the leaves was evident, however, when cut holly was held at temperatures of 80 degrees F. or above for twenty-four hours, and was commonly found after longer intervals at temperatures as low as 50 degrees F. From the results of this preliminary work, it would seem that this brown discoloration of the leaves is probably caused by high temperatures..."

PORTABLE PRECOOLING OUTFIT.

The portable outfit devised for precooling fruits, and described last summer by A. G. Galloway, principal scientific aid, is attracting considerable attention. This devise, which enables fruit growers and shippers to convert an ordinary refrigerator car into a "precooling plant," weighs only eighty-five pounds complete and is easily carried from car to car. "Its use allows the fruit to be loaded directly in the car from the packing house," says a Press Service clip sheet of the Department, "thus saving the cost of extra handling incident to a trip to a precooling plant. This arrangement saves time and labor for the growers, and in addition makes possible the cooling of fruit loaded at many shipping points where no precooling plant is available.

"The portable precooling device consists of a small electric motor and a high-speed blower. When two of these motor-driven blowers are put into operation in the bunkers of an iced and loaded car the natural circulation of air is reversed. The cold air is pulled up from the ice compartments at each end of the car and blown out over the top of the load, cooling the top layers much faster than they would be cooled with the natural circulation."

The device has been used for precooling strawberries in North Carolina and Florida and peaches in Georgia. It has also been used with success for precooling Citrus fruits in Florida. It is simple in construction, costing something less than $250.00 to put together. The cost of operation, of course, depends upon the cost of electric current and the kind of fruit to be cooled. The tests already made indicate that the cost for precooling a car of strawberries should not exceed $5.00. The device is covered by a "public service" patent and any one who cares to do so may assemble his own unit.

USING SERVICES OF THE DEPARTMENT.

"In all the agitation for farm relief during recent years," says an editorial in the AMERICAN FERTILIZER, "scarcely a word has been heard about the work of the Department of Agriculture, or about the work nearer home of the State Agricultural Colleges and Experiment stations. There are hosts of farmers in every State who know little or nothing about what the experiment stations are doing, and who have no conception of the possibility of making two blades of grass grow where only one now grows. Yet financial assistance in orderly marketing will be helpful only to farmers who have something to sell, and the net profit on any crop can be enlarged by reducing the cost of production as well as by increasing the selling price. More than anything else the farmers of this country need to interpret and apply to their own land the published results of Government research. Certain varieties of seed, certain methods of cultivation, certain standards of fertilization---all these greatly influence the yield and quality of the crop and its value..."

EXECUTIVE ORDER. Executive Order No. 5221 of November 11, 1929, reads as follows: Limitation on non-official employment of Officers or Employees of the American Government. It is hereby ordered that no officer or employee in the executive branch of the United States Government, regardless of whether he is on annual leave or leave without pay, shall be employed with or without remuneration by any foreign government, corporation, partnership, or individual that is in competition with American industry.

In view of the necessity of individual interpretation of this order with respect to cases within its scope arising in the Department, it is directed that hereafter no employee of the Department, whether in a duty status, on annual leave, or on leave without pay, shall accept employment with or without remuneration from any foreign government, corporation, partnership, or individual, without the prior authorization of the Secretary.

--R. W. Dunlap,
Acting Secretary.

COMPENSATION - DECEASED EMPLOYEES. The Comptroller General has ruled (A-28586, 9 Comp G.111) that payment may be made to the one legally entitled thereto of the compensation due a deceased employee of the United States up to and including the date of death, but payment may not be made to include any date later than that on which the employee was last known to be alive.

SUBSISTENCE-MEALS. A Government employee in a bona fide travel status on a per diem basis while at a place other than the place of his residence or actual home who procures subsistence and lodging by renting an apartment which he occupies with his wife who prepares his meals, is entitled to the full per diem in lieu of subsistence. Par. 47 (c), Travel Regulations, is applicable only where the subsistence and lodging are supplied by a member of the traveler's family at the regular home or place of residence of such member. (A-28674, 9 Comp. Gen. 140)

WITNESSES BEFORE FEDERAL GRAND JURIES. A temporary employee...subpoenaed to appear to testify on behalf of the Government is entitled to his regular compensation for the time necessarily absent from his regular work. A temporary employee.. subpoenaed to appear to testify on behalf of the Government is not entitled to witness fees or mileage, but is entitled to his necessary expenses, under the Standardized Government Travel Regulations, in going, returning, and while necessarily at the place where the jury is in session. (A-29269, (Comp. Gen. 168)

THE CITRUS FRUIT SITUATION. "As to oranges and grapefruit," declared Wells A. Sherman of the Division of Fruits and Vegetables, Bureau of Agricultural Economics, in a recent broadcast, summarized herewith his permission, "the situation in the long run looks better for the buyer than for the seller. As far back as 1926 the Department of Agriculture warned against the tendency to overplant these fruits. Again in its Outlook Report for 1927 and 1928 it said 'the outlook is unfavorable for additional plantings.' In spite of this warning there have been large subsequent plantings, and it appears almost certain that whenever we have full crops of oranges and grapefruit, for many years to come, we shall have a buyers' market. In the Lower Rio Grande Valley of Texas new citrus groves, chiefly grapefruit, are being planted by the mile along almost all of the principal highways. Plantings in Florida have probably been checked by the uncertainties caused by the discovery of the Mediterranean fruit fly last season, but it seems now that the marketing of the Florida crop will not be badly disrupted....It has been found possible to sterilize the fruit with a degree of heat which does not injure its table quality.

"Up to this time the Texas crop has been marketed chiefly within the State. Citrus planting is largely grapefruit and the Texas grapefruit has been found almost uniformly of excellent quality. As a majority of the groves are less than ten years old the crop of the district has not yet been of national importance, but when even a small product doubles each year the total soon becomes impressive. This is what Texas has been doing....total shipments for this season are likely to exceed 2,000 carloads....Picking is already intermittent because of unsatisfactory prices which may be due in part to the predominance of small sizes in this year's Texas crop.

".....Now, in spite of our large <u>acreage</u> of oranges and grapefruit this does <u>not</u> seem to be a year of large <u>production</u>. The Florida orange crop promises to be much smaller than last year and the shipments may be only two thirds as large as last season. The grapefruit crop also is only about two thirds as large as last year but it began moving rapidly and the shipments to November 16 were a little heavier than last year. This may mean that we shall have less grapefruit on the market, with higher prices, and perhaps better quality later in the season. We have no definite estimate of the California orange crop but the reported condition indicates a crop about three fourth's as large as last season. There is no reason to expect oranges to be as low in price this winter as they were last winter.

"In South Texas the natives freely admit that much land is set with citrus to 'sell to snowbirds.' Orange and grapefruit groves suggest subtropical climates. Promising young plantings are easy to sell at speculative prices to prospectors imported from snow-covered states during the winter months. If these snowbirds continue to buy newly planted grapefruit and orange groves we may expect increasing shipments as long as they will bring back the cost of handling and freight."

oooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooo

EDITORIALLY SPEAKING - John A. Ferrall.

PROPERTY INVENTORIES. A valuable horse had strayed away from the farm and when a sizeable reward was offered for his return, every one was amazed to see the animal brought back by the town half-wit. "How did you find him?" he was asked. "I just figured where I'd go if I were a hoss," said the finder. "I went there and there he was."

There is something of a suspicion that this method is used by some employees in locating Government property entrusted in their care. If so, it is suggested that a change be made, for our annual report of property is due January 1, 1930, and preliminary lists will be sent out in a few days to aid in checking up. In the meantime it is requested that articles ordered on requisitions and received during December be acknowledged promptly in order that they may be entered on the inventory cards here, helping us finish the office inventory promptly after January 1.

The property regulations are clear in fixing the responsibility and accountability of employees entrusted with equipment and supplies. The official in charge of a field station, for example, is responsible for all the property and accountable for all semi-expendable as well as expendable property and is expected to keep on file in his office records of all such items, the records to show when the property was received, from whom, cost, and in whose possession it is. In the case of property lost, stolen, destroyed or damaged beyond repair, the official in whose charge it is must render a report listing the article, the circumstances attending its loss, the steps taken to recover it if stolen, and whether the loss was due to the fault or neglect of any employee. Bureau administrative officials have not hesitated to require employees to replace Government property clearly lost or destroyed through their fault and not in connection with official work solely.

It is notorious, also, that some offices and field stations have a tendency to drift in the direction of the old-time attic or modern junk shop, accumulating innumerable odds and ends of equipment, etc., unserviceable, worn out, or otherwise not apt to be of any practical use. This sort of thing is to be carefully avoided. Officers in charge of property are urged to report promptly anything they may have on hand that is of no further use to them. It may be that such property can be used to advantage by another unit of the office.

Boards of Survey may be appointed at stations to check over property and sell at auction items unserviceable to us but still possessing some value; or to recommend the destruction of items totally useless and without value so that they may be removed from the inventory. In this connection, of course, it should be remembered that no employee formerly accountable for the property or who has used it, is permitted to purchase it--this ruling being necessary to prevent criticism.

IN A LIGHTER VEIN.

ANIMAL PSYCHOLOGY FOR FARM USE! General Booth, founder of the Salvation Army, used to tell a story of a man in South Africa who was exceedingly successful in dealing with mule teams. Asked how he managed these stubborn creatures, he said, "Well, when they stop and won't go on, I just pick up a handful of gravel or soil, put it in their mouths and let them taste it. Of course, they begin to go on. "Why do you think it has that effect?" he was asked. "Well, I don't know," he replied. "But I expect it changes the current of their thoughts."

WINTER.

An oyster from Kalamazoo
Confessed he was feeling quite blue.
"For," he said, "as a rule,
When the weather turns cool,
I invariably get in a stew."

FARM NOTES. A city man who was driving along a country road in a Model T Ford heard something clash. Looking back he saw a bright piece of metal on the road. For half an hour after he got out and recovered it, he tried to find the place where it fitted on his car. Then a farmer came back over the road and thanked him for finding his plow point!

CHRISTMAS TIES.

His wife doth buy the wildest ties--
Red, orange, green and blue.
But do you think he wears this junk?
I'll tell the world--"He do!"

ORNAMENTAL PLANTS. "Yes," explained the teacher, "we have several plants and flowers named with the prefix 'dog'. Of course, there is the dog-rose and the dog-violet--and the dog-wood. Can any of you children tell me of another?"

For some moments there was silence. Then a bright look came over the face of one of the boys and up went his hand:

"Collie-flowers, miss!" he said.

CONVALESCENT. The young lady was looking through the Christmas book stock. "May I help?" asked the courteous saleslady, noticing the customer's hesitation. "I want," explained the young lady, "a nice book for an invalid. It's to be a Christmas present." The saleslady nodded thoughtfully. "I see," she said. "Would you want something of a religious nature?" "Oh, no," said the girl, quickly. "He's convalescent."

PERSONAL MENTION

DR. AUCHTER was kept exceedingly busy the first week in December, addressing the State Horticultural Societies in Michigan, Missouri and Kansas, and the Peninsula Horticultural Society (Maryland, Virginia and Delaware) in Maryland.

He also addressed the contestants and judges of the Eastern Intercollegiate Fruit Judging League at the University of Maryland on December 7. The results of the fruit judging contest were as follows: West Virginia, first; Massachusetts, second; Maryland, third; Ohio, fourth; New Jersey, fifth; and Pennsylvania, sixth.

E. V. SHEAR, pathologist at the Hudson Valley Fruit Laboratory at Poughkeepsie, New York, which is a branch of the Geneva Station, spent two days in Washington this week in conference with DR. WAITE and DR. BROOKS.

Date growing and harvesting in Mesopotamia are shown in a new Department film, "Date Culture in Iraq," prepared by ROY W. NIXON, associate horticulturist. It is designed to show the date growers of our own Southwest how the groves from which the offshoots used in our own industry were secured, are handled. The film, which is in two reels, may be borrowed without cost other than transportation charges, from the Office of Motion Pictures, United States Department of Agriculture.

GEORGE M. DARROW left December 10 to attend the Regional Council Meeting on the strawberry industry, held at Monett, Missouri.

FREEMAN WEISS, L. L. HARTER, and W. W. GILBERT attended an informal conference recently at Boyce Thompson Institute and inspected equipment in use there for temperature and humidity control in the study of infection in plant diseases. They were much interested in the equipment and gathered a considerable amount of information as to what are the best types of equipment and where they can be procured.

WILLIAM J. ZAUMEYER who was operated on for appendicitis at Garfield Hospital, Washington, D.C., December 7, is recovering rapidly and expects to leave the hospital within a few days.

FURMAN L. MULFORD, associate horticulturist, has just put out a revised edition of his popular Farmers' Bulletin (No. 1087), "Beautifying the Farmstead." This is not only one of the most popular bulletins issued by the office, but is the type of publication that would undoubtedly have a wide sale in book form. It is for free distribution, of course.

This bulletin has been followed by a revision (L.B. CORBETT, principal horticulturist, and F. L. MULFORD, authors) of Farmers' Bulletin No. 1171, "Growing Annual Flowering Plants."

Those who have followed with interest the bud selection work conducted by A. D. SHAMEL, C. S. POMEROY, and R. E. CARYL, will be glad to learn that their latest publication, "Bud Selection in the Washington Navel Orange: Progeny Tests of Limb Variations," is off the press and ready for distribution. It is Technical Bulletin No. 123, United States Department of Agriculture.

B. D. EZELL left Wenatchee early in December for a visit to Minnesota, Illinois and Wisconsin in connection with his studies on the protection of apples from freezing injury in transit.

F. T. EAGAN is also visiting these States in connection with this work.

C. E. BUTTERFIELD has been given preliminary authority for the construction at Arlington Farm of a nursery and bulb storage house in accordance with specifications supplied by this office and approved by the Chief of Bureau.

The man who felt elated because he had caused two blades of grass to grow where but one grew before should take a post-graduate course with the American lettuce growers. According to Farmers' Bulletin No. 1609, "Lettuce Growing," by W. R. BEATTIE, senior horticulturist, the car-lot shipments of lettuce have grown from 13,788 in 1920 to 51,446 in 1928!

LAURISTON C. MARSHALL, who has been working at the Palmer Physical Laboratory, Princeton University, visited Washington December 12 for a conference in connection with the preparation of special propagating equipment for use in the tests of boron-resistant Citrus stocks, the handling of date offshoots, etc.

MARTIN BILON, of the Bell station at Glenndale, Maryland, reports that the rose canes though shorter have matured well, though, as a result of the drought, there will be few new hybrid rose seedlings to bloom next spring. The dry summer, however, benefitted the vegetative cutting rooting, making good the shortage of propagating material. The past season was very favorable for mass hybridization. "It is strange," he says, "that during the many years and mass of hybrid garden roses that have bloomed at Bell, not one has given rise to a sport like the H. Tea roses occasionally due, especially rose Ophelia."

FREEMAN WEISS attended a meeting of the Long Island Bulb Growers Association on December 10, and delivered a talk on "The Progress of Narcissus Disease Investigations." Dr. Weiss also visited some narcissus disease plots at Babylon, Long Island, and Yonkers, N. Y.

INDEX

ACCOUNTS should be mailed to [illegible], 150, 158
" typical suspensions, 121, 143, 161
Advance of funds with retirement security, 134
Administrative reports, etc. 177
Agricultural research, appreciation of, 79, 83
APPLES, American, abroad, 158
" response to seasonal conditions, 6
APPOINTMENTS, persons over retirement age, 23
" temporary, 145
Arlington Farm, shop fire, 59
ASPIRATORS, curing and testing of stills, 136
Auchter, E. C., 1, 4, 17, 40, 88, 104, 125, 130, 175, 185
AUTHORIZATIONS, limiting use of automobiles, 70
" special notice re, 101-a
" is it complete? 109
" must be read and followed, 133
" application for on Form [illegible] 2, 168
AUTOMOBILES, use of personally-owned, 70
" reports needed in triplicate, 105
" authority for use must be in [illegible], 109
" responsibility of drivers, 169

Bain, W. F., 23, 72, 32
BEANS, diseases in Florida, 35
" varse, 105
" the Mexican Jumping Bean, 139
Beattie, J. H., 3-a, 20, 55
Beattie, W. R. 3, 100, 112, 117, 124, 131, 153, 162, 171
BIDS, insufficient time allowed bidders, 101
" modification, 142
" contracts, delays, damages, 160
" essential before purchases $50 or over, 172
BILLS OF LADING, for express, freight, 41, 63
Bilon, Martin, 109, 126, 185
BLACKBERRIES, hybrid, 107
" thornless mountain blackberry, 113
Black walnut, rare figure-grained, 90
Blueberries, 11
Boswell, V. R. 1, 3-a, 9, 18, 95, 106, 115, 14
Bratley, C. O., 31, 36
Brierley, Philip, 26
Butterfield, K. C., 186

Cacti sentinels of the Southwest, 168
Cacti. Review of Griffiths' bulletin, 175
Caldwell, J. S. 131
Canners' Meeting, Univ. Md., Feb. 19-21, 1923, 1
CASH payments under l.s.a. not desirable, 152
Chadbourn (N.C.) laboratory, 99
CHERVIN, Merasca, 13
" Mazzera, 82
Chestnut culture, renewed interest in, 46
Christmas trees, certified, 179
Chrysanthemum Show, Mrs. Hoover attends, etc. 157
Cider, apple, 131
CITRUS fruits in marine transit inspected, 3
" California exports, 138
" fruit situation, Radio review, 182
" bud-selection bulletin, 186
Clark, Charles F., 89
Classification of civilian employees transferred from service to service, 160
Cold storage for seed potatoes, 82
Cooley, J. S., 106
COMMUNICATIONS formerly addressed to Head clerks of units should be sent to Mr. Swartz, 104, 134
COMPENSATION, double, 15
" injuries must be reported promptly, 166
CONTRACTS, mistakes, damages, 42
" delays, extensions, 101, 160
" for fiscal Year, 142
Cooperation, 75
Corbett, L. C., 6,7, 25
CORRESPONDENCE, who should sign letters? 78
" to be sent to Mr. Swartz, 104, 134
" handle with care, 173
Cover crops, 149
Cranberry, water injury to vines, 72
" flooding problems, 89
Crop yields below average, 138

Darrow, Geo. M., 3, 40, 115, 135, 145, 166
DATES, palms in Spain, 61
" culture in Iraq (film), 125, 185
" offshoots from Iraq taken to Texas, 75
" Bringing the Garden of Allah to America, 123
" regions of Elche, Spain, 175
Dealers, furnishing names no guarantee, 109
Dewberry, thornless wanted, 113
Diehl, H. C. resume of work, 127
Dinner for Farm Board, 17 groups served, 108
Drechsler, Charles, Taxonomy of Pythium, 49
Drivers, responsibility of, Gov. vehicles, 169

Editorials (see Ferrall, John A.)
Edmundson, W. C., 45, 90, 97, 112
Electric light bulbs, purchase from Contractor only, 119,161
Electricity, gas, water schedules of rates needed, 101
EMPLOYMENT of relatives undesirable, 111
" of USDA employees by foreign governments prohibited, 181
" compensation for deceased employees, 151
Evaporation effect on stock cultures, 12
Expense accounts, 142 (see VOUCHERS)
" itinerary reports, in duplicate, must accompany, 105,142
" subvouchers must accompany, 142
Express shipments to be made on B/L, 41, 63

Farming most complex of sciences, 79
Fawcett, Edna H., 26,47
Fenner, Aline, 125
Ferrall, John A. (Editor from August 1, 1929).
Believe it or not! 92
Why is a NEWS LETTER? 100
An open letter, 110
Bringing the Garden of Allah to America, 123
Letters of Authorization: Ideal--and real, 133
Rixford retires, 141
The Light Under the Bushel, 151 (Publicity)
Thanksgiving, 163
Handle with Care'. 173 (On Correspondence)
Property Inventories, 183
Filberts, protecting young plants, 77
Fish story from Stevens, 89
Fisher elected president of NW Assoc. Hort., 106
Florida bean disease situation, 35
Flowers enter ranks of big business, 167
Food plant (Water Caltrops), 119
Fruit Industry, Extract from radio talk by Dr. Taylor, 96
Fruit varieties, originating new, 3
Fruit and vegetable markets, 159
Frozen pack studies, 128
Fulton, H. R. 3

Galloway, A. G. 8 (Precooling investigations)
Garlic, elimination of, 150
Gas, electricity, water schedules needed, 101
Gasoline purchase, tax, etc. 41,79, 134
German, Fairfax L. death of, 156
Gilbert, W. W. 27, 136
Goll, Frank L. 26, 47, 74, 60, 175
Grapefruit, heat sterilization, 150

CRATES, all-metal trellises cheaper than wooden, 18
" spraying in Spain, 60
" Peneriti harvesting in July, 67
" from Arlington Farm served at Farm Board dinner, 108
CITRUS, Citrus receiving station assembled at
" Torrey Pines, California, 75
" Bethesda Quarantine Greenhouse being duplicated in Japan, 126
" authorization issued for nursery and bulb storage house at Arlington Farm, 186
Griffiths, David, 145, 175
Groff, C. Weidman, 105, 155

Harter, L. L., 1, 146
Hawkins, Lon A., 9, 38, 99
Hedges, Florence, 56
Holidays, per diem, subsistence, 160
Holly, deterioration in transit, 179
Honey, Radio talk, 124
HUMOR. See "In a Lighter Vein."
Husmann, George C. 69, 107, 108
Hutchins makes debut in talking pictures, 130

Japanese beetle traps, 101
(New generation trappers using perfume!)

Ketsura, Saburo, 108

Lake, E. R. 77
Letters of Authorization (See AUTHORIZATIONS)
Lima bean seed giving poor stand, 146
Lombard, P. M. 6, 33,45,91,149

Magness, J. R. 125, 145, 165
Marasca Cherries, 13
Martin, G. Hamilton, 125
Mason, Silas, C., 166
May, Eugene, Jr. 75, 87
Mazzard cherries, wild seedlings, 82
MOTION PICTURES, "Plant Immigrants," 40
" "Date Culture in the Iraq", 105
Mulford, E. L. 4, 16, 25, 46, 55, 165, 185
Muskmelons, 124

Narcissus diseases, 146
Nixon, Roy W. 4, 43, 125, 176, 185
Nurse-graft Y-cutting method of plant propagation, 15

Oklahoma potato tour, 76
Onion smudge resistance, 38

Pacific Foreign Trade Council Meeting, 111
Patents, litigation over spray (Grosden), 168
PAY ROLL, field employees to be listed on, 170
PEACH, phony disease, 66, 159
" Hauss variety, 83
" progeny peach trees, 138
" new spray for peach diseases, 3
Peanut improvement, 20
PEE DEE, field station at Shreveport, La. 76
" tractor vs. mule in cultivation, 112
Peebles, Robert H. 4
PER DIEM, subsistence, holidays, 160
Pierce, Leslie, 3
Pomeroy, C. S. 83
POTATOES, seed potato improvement conference, 19
" inspecting seedlings, 66
" Oklahoma potato tour
" seed potato stocks, 98
" seedling potatoes in Iowa, 88
" take good care of crop, 117
" breeding investigations, 129
" harvesting potato seedlings, 148
Precooling experiments, 8
Precooling, portable outfit for, 180
PRINTING in field not to be incurred without permission, 170
PUBLICATIONS cleared through Office of Information, 53
Pritchard, F. J. 27
Pythium, basic principles of taxonomy of, 49

Quarantine, phony peach disease, 158

RADIO broadcasts, 98, 182. (See also C. L. Beattie)
Rabbit visitors, 140
Ramsey, G. F. 116
Raspberries, new and superior red, 113
Reallocation of civilian employees to lower grades, 15
Refrigerator cars, 99
Relatives, employment of prohibited, 111
Research, agricultural, 4, 79, 83
Retirement age-Persons passing it not eligible for appt., 23
Rixford, G. P. 20, 21, 69, 116, 141, 176
Roberts, J. W., 126
Robinson, T. Ralph, 38, 75
Roses, budding, etc. 108
" 40 varieties for National Rose Testing Garden at Arlington Farm, 25

Salads, The American salad bowl, 118
Sando, Charles E. 74, 94
Saunders, Belle C. 163
Savage, E. M., 104
Scott, Emmett C., 70, 126, 152
Seed potatoes, 83 (82)
" " , improvement, 19
Seedling potatoes in Iowa, 88
Shakespearian garden, 21
Shamblin, A. J. 165
Shamel, A. D., 138
Sherman, Wells A. 182
SHIPMENTS should be marked to show they are official, 120
Shoemaker, D. N., A new food plant, 119
Slosson, Dr. Edwin E., death of, 147
Spray for peach diseases, 3
Stevens, Neil E. 54
Standard container act, 159
Stock cultures, evaporation affects on, 12
STRAWBERRIES, precooling, 8, 180
" field day at Willard, N.C. 29
" wild, supplying new "blood" for breeding, 40
" dwarf disease, 99
" comparison of canned, 158
Stuart, Wm. 88, 98, 129, 148
SUBSISTENCE, per diem, holidays, 160
" meals prepared by employee's wife, 181
SUN, NEW YORK, uses editorial on Rixford's retirement, 176
SUSPENSIONS, typical, 121, 143, 161
SUBVOUCHERS must accompany account, 142
SWEET POTATOES, anecdote re, 20, 3
" moist-fleshed, 20
" seedlings, 3-a
Swingle, Charles F., 105
Swingle, Walter T. 15, 43

Tanaka, Tyozaburo, 16, 126
Taylor, Dr. Wm. A., 96
TELEGRAMS reserving hotel accommodations, 2
TELEPHONE rental must be covered by contract, 100
Thackery, Frank A. 4, 168
Torrey Pines, Citrus Receiving Station, 75, 86, 87
TRANSPORTATION REQUESTS for travel over $1.00, 2, 30
" Pullman receipts to be secured, 23
" carbons must be mailed promptly, 142
" change number to fit new l.a., 152
" used for personal travel
Tracy, W. W. Jr., 31
Trellises, all-metal cheaper than wooden, 18

Vegetable variety standardization and type
book studies, 3-a
Vegetables for fall use, 139
Vehicles, Government, responsibility of drivers, 169
Verplanke of Belgium visits Presque Isle, 90
VERSE, 67,70,72,77,71,103,114,122,132,144,154,164,184
VOUCHERS for supplies and for personal services
must be submitted in DUPLICATE, 91
" destroy old voucher forms, 152
" use HC&D form 2 for l.a., 168
" form 1034 must be signed at bottom by the employee under whose l.a. expense is incurred, 176

Waldo, George F. 113
Walker, J. C., 38
Waite, M. B., 135
Walnut, black, rare figure-grained, 50
Washington (D.C.) boys make enthusiastic "farmers", 61
Water, electricity, gas schedules of rates needed, 101
Water Caltrops, 119
Weiss, Freeman, 12, 48, 65
White, Elizabeth, 11, 12
Whitney, W. A., 1, 12, 130, 145, 147
Winchester horticultural meeting, 175
Witnesses before Federal grand juries, pay of
necessary expenses allowed, 181
Wood, Milo N. 14
Wright, W. H., death of, 52

Yerkes, Guy, 175
Yoder, P. A., death of, 95, 116

Zeumeyer, W. J., 1,35, 165